

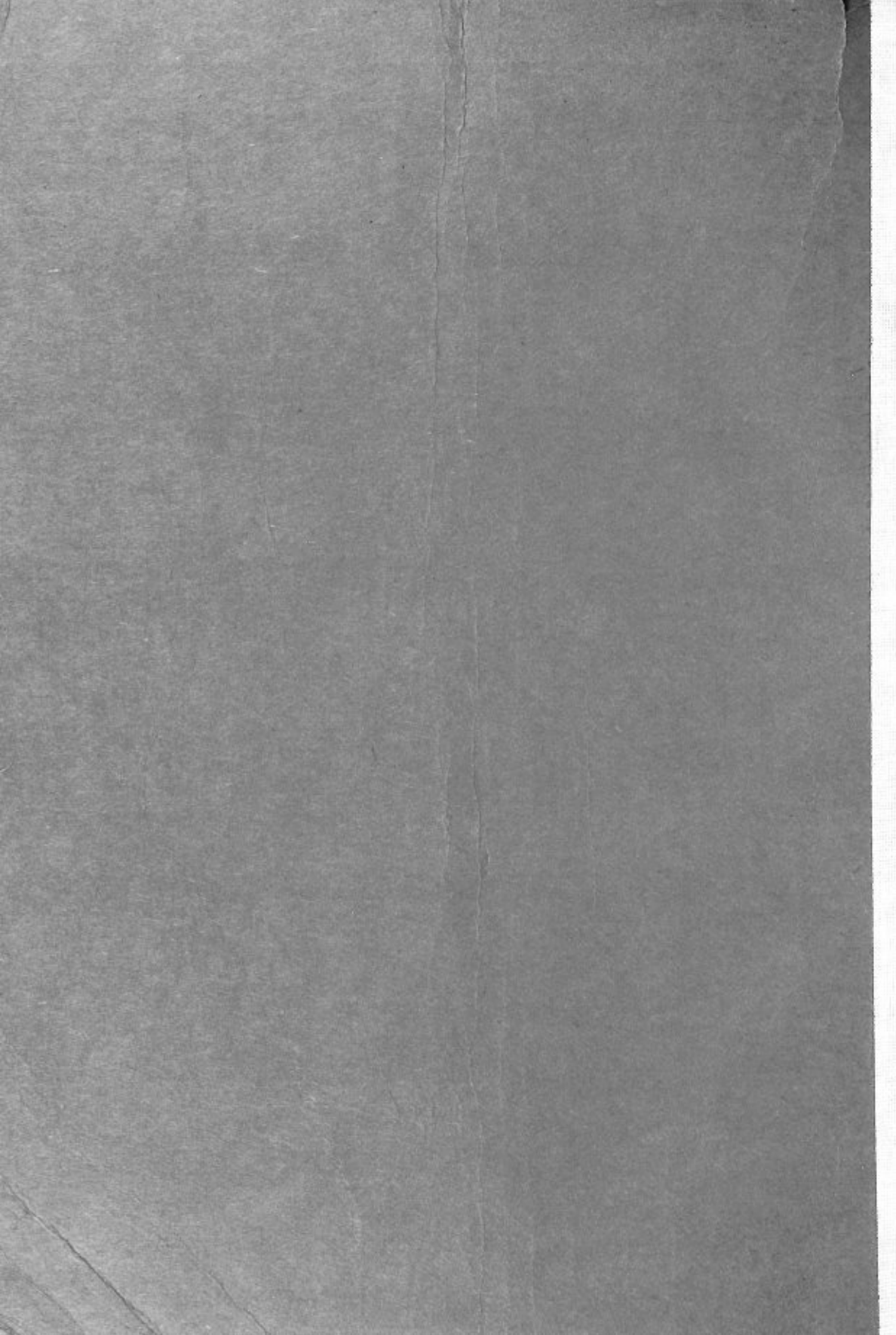
GARAGE, SHOP & AUTOMOTIVE EQUIPMENT



**PITTSBURGH AUTO
EQUIPMENT CO.**
5933-37 BAUM BLVD PITTSBURGH PA.

CATALOGUE
NUMBER **7**
1920

WHOLESALE ONLY



1922

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PITTSBURGH, PA.

GARAGE, SHOP

AUTOMOTIVE EQUIPMENT TOOLS - TIRES

CATALOGUE No. 7
1920

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 Prices shown in this Catalogue are List or Retail Prices, and subject to Discount---Excepting some few Shop Equipment Devices---to all Legitimate Dealers, Garages and Repair Shops

ALL PRICES AND DISCOUNTS
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WITHOUT NOTICE

Confidential Discount Sheet will be furnished only to
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Pittsburgh Auto Equipment Co.

ESTABLISHED 1906

5933-37 BAUM BLVD., - - PITTSBURGH, PA.

PLEASE READ THIS CAREFULLY

INSTRUCTIONS FOR ORDERING

Write clearly giving a complete description of articles wanted and refer to catalogue page and number when possible. In ordering articles like Seat Covers, Ball Bearings, Etc., made to fit a particular model car be sure to give name, model, year and style of car.

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As our business is wholesale only, we make no sales under any circumstances for less than \$.25.

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All prices shown in this catalogue are list or retail prices and are subject to change without notice and all articles are subject to prior sale. A separate discount sheet is furnished to legitimate dealers, garages, tire repair shops, etc., but we do not under any circumstances sell at retail. We try to maintain the lowest prices consistent with the quality of the goods and whenever possible will protect our trade, but prices in many instances are beyond our control. All shipments are made F. O. B. Pittsburgh. We do not pay carriage charges.

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We strongly urge the use of trade acceptances where our customers do not discount their bills. A Trade Acceptance allows you from 10 to 40 days longer time to pay your discount without added cost or inconvenience to yourself and enables us to make use of the money ordinarily tied up in accounts. A Trade Acceptance simply puts in negotiable form the obligation you assume on purchasing goods on open account. We add our endorsement to your signature on a Trade Acceptance, our joint names guaranteeing that the obligation will be paid promptly at the time and place specified and we have a mutual interest in seeing that the obligation is promptly met.

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WHOLESALE DISTRIBUTORS

MICHELIN

DOUBLE CORD TIRES

DOUBLE LAYERS OF CORDS BETWEEN DOUBLE CUSHIONS OF RUBBER MEAN DOUBLE TIRE SERVICE.

Michelin Double Cord Tires—the latest product of the house that invented the pneumatic automobile tire 25 years ago—combine in one product for the first time three supreme advantages:

1st—Double Cord construction.

2nd—Double cushions of rubber.

3rd—A new long-wearing tread.

The Michelin Double Cord Casing is built of double layers of cords, each double layer at right angles to the next. Ordinary cord tires are built up of single layers at right angles to each other.

Endless comparative tests prove that the Michelin Cord, reinforced as it is by this double-cord construction, is unsurpassed for freedom from blow-outs.

Another advantage: Between each double layer of cords in the Mich-

lin construction there is a double cushion of rubber. This greatly increases the resiliency of the tire. That is why Michellins are so easy riding.

Still another advantage: The new tread on the improved Michelin Cord is perhaps the most durable tread ever produced.

In short the new Michelin Double Cord Tire introduces an entirely new degree of satisfaction in motoring.



MARCH 10, 1920

MICHELIN UNIVERSAL CORDS

Sizes	Patented	Retail Prices Straight Side
32" x 3½"		\$44.00
32" x 4"		55.50
32"		57.00
34"		58.50
32" x 4½"		63.50
34"		66.00
36"		69.75
33" x 5"		78.00
35"		82.00
37"		86.00

MICHELIN UNIVERSAL TREADS

Sizes	Fabric Type	
	Straight Side	Soft Bead Cl.
30" x 3"	*\$16.00	\$18.65
30" x 3½"	* 20.50	23.00
31"	.....	26.15
32"	.....	27.50
31" x 4"	.....	32.10
32"	.....	36.90
33"	.....	38.75
34"	.....	40.00

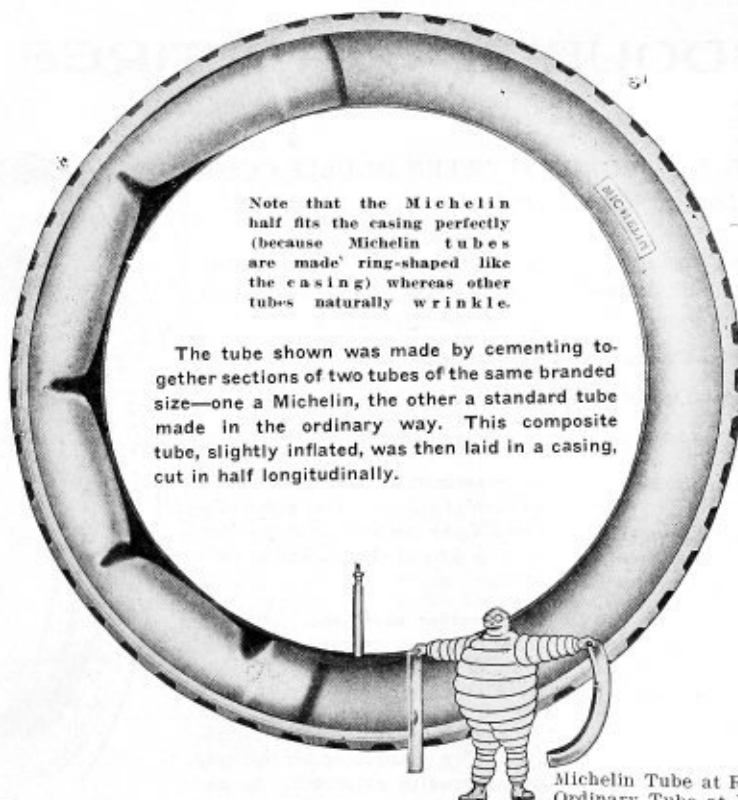
* Soft Bead Clincher Plain Tread.

ADD FEDERAL TAX 5% OF DEALERS PRICES.

PITTSBURGH AUTO EQUIPMENT CO.

MICHELIN

TUBE COMPARISON



REMEMBER THIS:—

MICHELIN TUBES—Ring-Shaped. No Buckling, No Pinching, No Creasing.
ALL OTHER TUBES—The Picture tells the story.

MARCH 10, 1920

SIZE	RETAIL PRICE	SIZE	RETAIL PRICE
28" x 3"	\$3.70	32" x 4½"	\$7.50
30"	3.80	33"	7.75
30" x 3½"	4.40	34"	7.90
31"	3.80	35"	8.20
32"	4.80	36"	8.50
31" x 4"	5.15	33" x 5"	9.20
32"	5.80	35"	9.55
33"	6.10	37"	10.10
34"	6.40		

ADD FEDERAL TAX 5% OF DEALERS PRICES

Raybestos BRAKE LINING



CONSTRUCTION. RAYBESTOS is a solid, woven asbestos fabric, made 90% to 95% long-fibre asbestos, interwoven with brass wires, and impregnated with a special heat and wear-resisting compound that gives it a wearing life found in no other brake lining.

It contains no layers or plies nor rubber compound, and is therefore impervious to extreme heat, oil and weather conditions.

ADAPTABILITY. RAYBESTOS can be used wherever a high-grade friction material is required. It is not only adaptable as a Brake Lining and Clutch Facing on automobile pleasure cars and trucks, but can be used also for the same purpose on mill transmission equipment, hoisting machines, elevators, mining machinery, etc.

NOTE. The genuine has *silver edges*, and the name RAYBESTOS stamped on every foot. As there are many imitations, it is important that you always look for these distinguishing marks.

Guaranteed For One Year

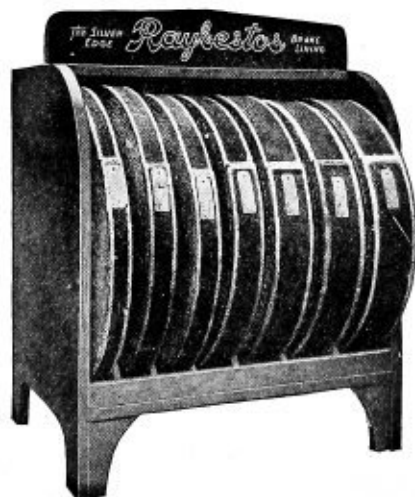
If RAYBESTOS fails to give one full year continuous, satisfactory service from the date it is put on the Brakes, new Lining will be furnished without charge. This Guarantee applies to all types and weights of pleasure cars and all light trucks.

RAYBESTOS STANDARD PRICE LIST

Effective February 25, 1919

Widths	THICKNESS					
	1-8	5-32	3-16	1-4	5-16	3-8
1"	.34	.38	.45	.59	.74	.89
1 1/8	.36	.41	.49	.65	.80	.96
1 1/4	.38	.45	.53	.70	.87	1.03
1 1/2	.42	.51	.61	.80	.99	1.18
1 3/4	.49	.59	.72	.93	1.14	1.35
2"	.55	.68	.80	1.05	1.31	1.56
2 1/4	.61	.76	.89	1.18	1.47	1.77
2 1/2	.68	.84	.99	1.31	1.62	1.92
2 3/4	.73	.92	1.09	1.42	1.76	2.14
3"	.78	.99	1.18	1.54	1.89	2.33
3 1/4	.84	1.05	1.26	1.65	2.03	2.51
3 1/2	.89	1.12	1.35	1.76	2.17	2.70
3 3/4	.94	1.19	1.43	1.87	2.30	2.89
4"	.99	1.26	1.52	1.98	2.44	3.08
4 1/4	1.02	1.34	1.60	2.09	2.58	3.15
4 1/2	1.07	1.40	1.68	2.20	2.71	3.25
4 3/4	1.12	1.47	1.77	2.31	2.85	3.34
5"	1.16	1.54	1.85	2.42	2.99	3.38
5 1/2	1.26	1.61	2.02	2.64	3.26	3.63
6"	1.37	1.68	2.19	3.07	3.53	3.82

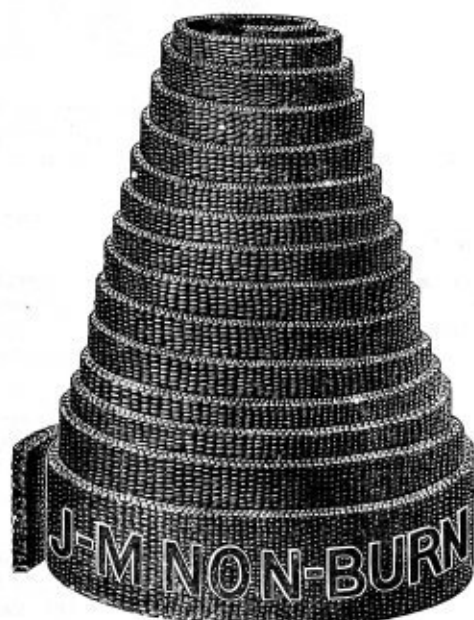
Raybestos without wire for Ford Cars furnished at same list prices as above.



The RAYBESTOS Display Cabinet is consigned free to the dealer or garage placing an initial stock order with us for RAYBESTOS for not less than 500 feet of assorted sizes.

These Racks are shipped direct from the factory, with an assortment of advertising matter.

Johns-Manville Non-Burn Asbestos Brake Lining

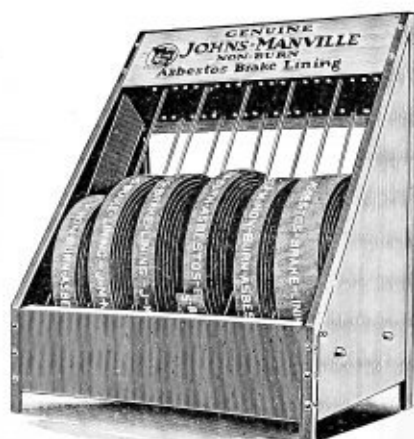


Made from selected long fibre asbestos, reinforced with brass wire and compressed under tremendous hydraulic pressure to insure absolute uniformity of thicknesses and wearing quality.

The method of weaving makes J-M Non-Burn Brake Lining impervious to heat and insures maximum braking power.

Comes in 50-ft rolls only.

J-M BRAKE LINING DISPLAY CABINET



STANDARD PACKAGE 50-FOOT ROLLS. Price per Lineal Foot.

WIDTH			THICKNESS					
			1/8"	5/32"	3/16"	1/4"	5/16"	3/8"
1"	appr. weight	5 lbs.	\$.40	\$.45	\$.50	\$.70	\$.80	\$.96
1 1/4"	"	6 1/2 "	.50	.55	.60	.80	.94	1.16
1 1/2"	"	8 "	.60	.65	.70	.90	1.11	1.35
1 3/4"	"	9 1/2 "	.70	.75	.80	1.00	1.26	1.54
2"	"	11 1/2 "	.80	.85	.90	1.20	1.41	1.73
2 1/4"	"	12 "	.90	.95	1.00	1.30	1.56	1.92
2 1/2"	"	14 "	1.00	1.05	1.10	1.50	1.72	2.12
2 3/4"	"	15 1/2 "	1.10	1.15	1.20	1.60	1.87	2.31
3"	"	17 1/2 "	1.20	1.25	1.30	1.70	2.02	2.50
3 1/4"	"	19 "	1.25	1.35	1.40	1.80	2.16	2.69
3 1/2"	"	21 "	1.30	1.45	1.50	1.90	2.21	2.88
3 3/4"	"	22 1/4 "	1.35	1.50	1.60	2.05	2.31	3.08
4"	"	24 "	1.40	1.55	1.70	2.20	2.50	3.27
4 1/2"	"	27 "	1.80	1.94	2.08	2.50	2.92	3.65
5"	"	30 "	1.92	2.11	2.29	2.70	3.22	4.04
5 1/2"	"	35 "	2.12	2.31	2.50	3.01	3.52	4.42
6"	"	40 "	2.27	2.49	2.71	3.27	3.82	4.80

Weight based on 50-ft. rolls, 3/16 in. thick, woven. Prices of other sizes on application.

Sizes in above list printed in heavy type are considered essential. All other sizes made up on special order only and subject to delay.

The best way to sell J-M Brake Lining is to show one of these handsome display cabinets in the front of your store.

Made of metal and finished in rich olive green with six adjustable partitions to accommodate the various widths of J-M Brake Lining. Enables the dealer to keep a perpetual inventory of his brake lining stock, as well as displaying it to the best advantage.

Furnished free to each dealer with an order for 500 feet or more of J-M Non-Burn Brake Lining.



Made of long staple Canadian asbestos reinforced and interwoven with solid brass wire impregnated with Grapnal under tremendous heat and pressure. Grapnal is a secret friction compound which by being forced through all pores insures resistance to moisture, oil and gasoline. Unaffected by heat and retains its braking power until worn paper-thin. Made in all sizes to fit all cars.

**Thermoid Hydraulic Compressed
Brake Lining**

Price List
Folded and Stitched Brake Band Lining
Adopted 1906

Width Inches	Thickness					
	$\frac{3}{8}$ -inch	$\frac{7}{16}$ -inch	$\frac{1}{2}$ -inch	$\frac{5}{8}$ -inch	$\frac{3}{4}$ -inch	$\frac{7}{8}$ -inch
1	\$0.40	\$0.45	\$0.50	\$0.70	\$0.83	\$0.96
1 3/8	.45	.50	.55	.75	.92	1.06
1 3/4	.50	.55	.60	.80	.98	1.16
1 7/8	.60	.65	.70	.90	1.13	1.35
2	.70	.75	.80	1.00	1.27	1.54
2 1/4	.80	.85	.90	1.20	1.47	1.73
2 1/2	.90	.95	1.00	1.30	1.62	1.93
2 3/4	1.00	1.05	1.10	1.50	1.81	2.12
3	1.10	1.15	1.20	1.60	1.96	2.31
3 1/4	1.20	1.25	1.30	1.70	2.10	2.50
3 1/2	1.25	1.33	1.40	1.80	2.25	2.69
3 3/4	1.30	1.40	1.50	1.90	2.39	2.88
3 7/8	1.35	1.48	1.60	2.05	2.57	3.08
4	1.40	1.55	1.70	2.20	2.74	3.27
4 1/4	1.60	1.75	1.90	2.50	3.08	3.65
4 1/2	1.80	1.95	2.10	2.70	3.37	4.04
4 3/4	2.00	2.15	2.30	3.01	3.72	4.42
5	2.20	2.35	2.50	3.27	4.04	4.80

^c Sizes indicated by bold-faced type represent those sizes which have been approved by the Society of Automobile Engineers as "Standard."
Any sizes other than "Standard" must be considered as special.

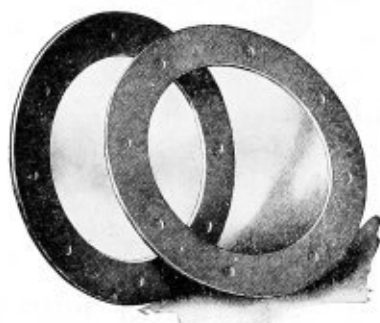


Raybestos

MOLDED DISC CLUTCH FACINGS



Each Box Contains 20 Rings of one size only



Raybestos Molded Disc Clutch Facings contain 75 per cent. long fibre Asbestos, compressed under huge hydraulic presses at great heat with a suitable binder insuring absolute homogeneity that is impossible to secure with the ordinary woven type of facing. Raybestos Molded Disc Clutch Facings are of one-piece endless type construction and contain no wire, tape, or other cheaper materials. Therefore, each Disc will wear down to a thin wafer before needing replacement. A few miles running—and each Raybestos Disc acquires a glass hard polish, making it practically immune to wear; unaffected by heat, moisture, or abuse.

GUARANTEE. Raybestos Molded Disc Clutch Facing is guaranteed for six months' service on pleasure cars and light trucks. Should it break or fail to give satisfactory service the manufacturers agree to replace it free of charge and to make a suitable allowance for labor in reassembling.

Made for all types of cars using Disc Clutches.

SUGGESTED 25-BOX ASSORTMENT

2 boxes	Reo Rings,	6 $\frac{1}{2}$ x 5 $\frac{1}{8}$ x $\frac{1}{8}$
2 boxes	Buick Rings,	6 $\frac{1}{2}$ x 5 $\frac{1}{8}$ x $\frac{1}{8}$
3 boxes	Cadillac Rings,	7 $\frac{1}{2}$ x 5 $\frac{1}{8}$ x 5/32
1 box	Saxon Rings,	7 $\frac{1}{2}$ x 5 $\frac{1}{8}$ x $\frac{1}{8}$
2 boxes	Fuller Rings,	8 x 6 x 5/32
2 boxes	Packard Rings,	8 x 6 x 3/16
4 boxes	Brown & Lipe Rings,	8-7/16 x 6 $\frac{1}{4}$ x 5/32
2 boxes	Dodge Rings,	9 x 6 $\frac{1}{4}$ x $\frac{1}{8}$
1 box	Chalmers Rings,	9 x 7-11/32 x 5/32
5 boxes	Borg & Beck Rings,	9 $\frac{1}{2}$ x 6 $\frac{1}{2}$ x $\frac{1}{8}$

Size	Clutch	Consumer's Price per Ring
8-7/16 x 6 $\frac{1}{4}$	x 5/32—Brown & Lipe Clutch	\$.86
9 $\frac{1}{2}$ x 6 $\frac{1}{2}$	x $\frac{1}{8}$ —Borg & Beck	1.13
11 $\frac{1}{2}$ x 8 $\frac{1}{2}$	x $\frac{1}{8}$ — " "	1.62
7 $\frac{1}{2}$ x 5 $\frac{1}{8}$	x 9/64—Cadillac Cars	.70
9 x 7-11/32	x 5/32—Chalmers	.67
8 x 6	x 3/16—Packard	.82
9 x 6 $\frac{1}{4}$	x $\frac{1}{8}$ —Dodge	.76
7 $\frac{1}{2}$ x 5 $\frac{1}{8}$	x $\frac{1}{8}$ —Saxon	.87
8 x 6	x 5/32—Fuller Clutch	.67

Lack of space prevents us showing complete list Raybestos Clutch Facings for all cars. Upon application we will gladly furnish complete list giving consumers' and dealers' prices.

Leathertex Cone Clutch Facings



**MADE ENDLESS FOR ALL MAKES
OF CARS WITH CONE CLUTCHES**



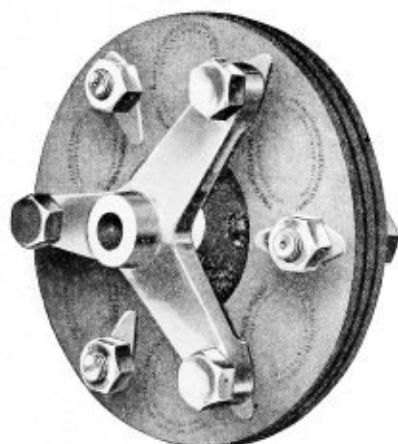
LEATHERTEX is a combination of carefully selected, specially tanned leather, and textile—really merged into one element under 3,000 pounds hydraulic pressure—with a leather face for the clutch and a textile backing next to the cone. Leathertex facings are more economical than facings of solid leather—more durable than solid leather—more resilient than solid leather—more uniform than solid leather facing.

We carry facings in stock for a large number of cars and trucks, and can very promptly supply a facing for any car, truck or tractor which uses a cone clutch.

A facing must fit snugly on the cone, so be sure, when ordering, to specify accurately the correct stock numbers. There are four dimensions to a facing—so accurate information is essential if we are to supply you with correct size. Below we list some of the leading cars and trucks for which we have facings in stock:

Clutch Facing No.	CAR	MODEL	List Price
104-F.....			\$ 2.88
110-F.....	Buick	19-21-D-55, C-55, B-55, 48, 6 Cyl.....	5.25
111-F.....	Buick	D-45, 1916-17, 6 Cyl.....	5.46
112-F.....	Buick	24, 25, 34, 35, 26-B-24.....	4.53
114-F.....	Cadillac	1913-14.....	5.37
115-F.....	Chevrolet	490.....	2.61
116-F.....	Chevrolet	Baby Grand.....	3.63
125-F.....	Cole	8 Cyl., Series 1917-18-19-20.....	5.04
126-F.....	Cole	Series 1915-16.....	3.99
129-F.....	Dodge	All Models.....	3.27
131-F.....	Dort	All Models.....	3.57
134-F.....	Federal Truck	C and D.....	5.80
135-F.....	Federal Truck	G, H, I, K, M.....	5.28
136-F.....	Grant	KX-1919, G-1918, KC, KR, KT-1917, BC, BR, BT-1916.....	3.57
137-F.....	Gramm-Bernstein Truck	All Models.....	10.14
138-F.....	Garford Truck	S-2.....	4.05
139-F.....	General Motors Truck	Factory part No. 612.....	5.28
139-AF.....	General Motors Truck	Factory part No. 615.....	5.31
142-F.....	Interstate	All Models.....	4.50
143-F.....	Kelly-Springfield Truck	All Models.....	5.22
144-F.....	Kissell Kar	100 Point 6.....	4.68
145-F.....	Kissell Kar	D-11, D-12, 12-40, B-40, 14-40, 14-6-8, 13-6-60, 14-6-60, F-11, 12-6-60.....	5.21
146-F.....	Kissell Kar	16-6-42.....	3.93
147-F.....	Maxwell	All Models.....	3.30
150-F.....	Marmon	1914-15-16, Model 41.....	6.10
151-F.....	Marmon	1916-17-18-19, Model 34.....	6.10
154-F.....	National	1916-AC, 1916-AD-12, 1916-AE-6, 1917-AF-6, 1916-AH-12.....	4.75
157-F.....	Oldsmobile	1916-44, 1917-45, 1918-45, 1918-45-A, 1919-45.....	4.30
156-F.....	Oldsmobile	37.....	2.61
183-F.....	Oldsmobile Truck	1918-19.....	3.63
159-F.....	Oakland	1916-38-50.....	3.66
163-F.....	Oakland	1916-32, 1917-34, 1918-34, 1919-34.....	2.61
167-F.....	Overland	75, 75-B, 90.....	3.30
168-F.....	Overland	All Models except 75, 75-B and 90.....	3.63
174-F.....	Stutz	All Models.....	6.18
177-F.....	Studebaker	SC and SD, 1914-15, 4 Cyl.....	3.50
178-F.....	Studebaker	6 Cyl Models, 1914-EB, 1915-EC, 1917-ED, 1918-ED, 1919-EG, 1919-EH.....	3.93
181-F.....	Studebaker	1919-HS, 6 Cyl.....	4.38
179-F.....	Vim Truck	All Models.....	4.15

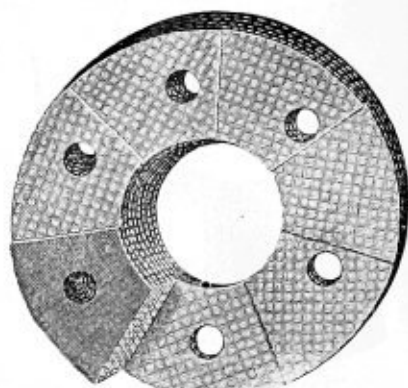
Thermoid Hardy Universal Joints and Couplings



Assembled spider showing simplicity of installation.



Test of a Thermoid-Hardy Universal in which a two-inch tubular propeller shaft was twisted.



EQUALIZATION OF STRENGTH AT ALL POINTS SECURED BY PATENTED ARRANGEMENT OF PLYS

Used as standard equipment on many of the leading cars and trucks. Require no lubrication and due to their construction absorb and cushion shocks ordinarily transmitted to the rear axle. Also used for couplings on cam shaft for magnetos, generators, water pumps, etc. Thermoid Hardy, Universal Joints are made of a series of laminated discs of highest grade Sea Island cotton specially impregnated, rendering them water and oil proof. Each alternate piece of fabric is laid at an angle to the preceding layer, thus giving a uniform strength between bolt holes throughout the entire disc. The entire disc is compressed and cured so that the proper flexibility is obtained. Tensile strength 3400 lbs. per square inch. When once installed Thermoid Hardy Universal Joints require no attention. Frequently 40,000 miles service is obtainable with the heaviest trucks, Thermoid Hardy Universal Joint equipped—without attention of any kind. Standard equipment on such pleasure cars as Briscoe, Franklin, Locomobile, Lexington, Maxwell, Mercer, McFarlan, Studebaker, Overland, etc., and on Auto Cars, Diamond "T", International Harvester, Moreland, Packard, Service, Wilcox, etc. trucks.

In ordering be sure to specify make, model, and year of car or truck, also all dimensions for Universal Joint Discs.

THERMOID HARDY UNIVERSAL JOINT

Standard Disc Sizes and Punchings

SIZES			LIST PRICES		
No.	O. D.	I. D.	$\frac{1}{4}$ " Thick	$\frac{5}{16}$ " Thick	$\frac{3}{8}$ " Thick
1	5"	$1\frac{1}{8}$ "	\$1.25	\$1.65	\$1.85
		6— $\frac{3}{8}$ " holes on 4" circle			
2	$5\frac{1}{2}$ "	$2\frac{1}{8}$ "	1.50	1.95	2.20
		6— $\frac{3}{8}$ " holes on 4 $\frac{3}{8}$ " circle			
3	6"	$2\frac{1}{4}$ "	1.75	2.20	2.50
		6— $\frac{1}{2}$ " holes on 4 $\frac{3}{8}$ " circle			
4	$6\frac{1}{2}$ "	$2\frac{1}{2}$ "	2.00	2.55	2.85
		6— $\frac{1}{2}$ " holes on 5" circle			
5	7"	$2\frac{3}{8}$ "	2.25	2.90	3.20
		6— $\frac{1}{2}$ " holes on 5 $\frac{1}{4}$ " circle			
6	$7\frac{1}{2}$ "	$2\frac{3}{4}$ "	2.50	3.25	3.65
		6— $\frac{1}{2}$ " holes on 5 $\frac{3}{8}$ " circle			
7	8"	3"	2.75	3.60	4.10
		6— $\frac{5}{8}$ " holes on 6" circle			

SIZES			LIST PRICES		
No.	O. D.	I. D.	$\frac{1}{4}$ " Thick	$\frac{5}{16}$ " Thick	$\frac{3}{8}$ " Thick
8	$8\frac{1}{2}$ "	3"	3.00	3.95	4.50
		6— $\frac{5}{8}$ " holes on 6 $\frac{1}{4}$ " circle			
9	9"	$3\frac{1}{4}$ "	3.40	4.45	5.00
		6— $\frac{5}{8}$ " holes on 6 $\frac{1}{2}$ " circle			
10	$9\frac{1}{2}$ "	$3\frac{1}{4}$ "	3.80	4.95	5.50
		6— $\frac{5}{8}$ " holes on 6 $\frac{3}{4}$ " circle, or			
		6— $\frac{1}{2}$ " holes on 5 $\frac{3}{4}$ " circle, and			
		6— $\frac{1}{2}$ " holes on 8" circle			
11	$10\frac{1}{2}$ "	$4\frac{1}{4}$ "	4.40	5.85	6.55
		6— $\frac{1}{2}$ " holes on 6" circles and			
		6— $\frac{1}{2}$ " holes on 8 $\frac{1}{2}$ " circle			

SPACER WASHERS FOR ABOVE

No. 14— $1\frac{1}{2}$ O. D. $x\frac{1}{2}$ " hole }
 No. 12— $1\frac{11}{16}$ O. D. $x\frac{5}{8}$ " hole } List Price per dozen, 35 cents

COPPER RIVETS



Made of soft copper and used for attaching brake lining, clutch facing, etc.

Carried in stock in 1/2 and 1 pound boxes of one size.

UNIFORM LENGTHS

Rivet No.	7	8	9	10	12
1 lb. Boxes. List Price per lb.,	\$.49	.50	.52	.54	.58
1/2 lb. Boxes. List Price per lb.,	.52	.53	.55	.57	.61

SPLIT BRASS RIVETS



Used extensively for attaching brake lining or clutch facings, as they are easier to apply than the solid copper rivets.

Carried in stock in boxes of 100 or 1,000 of one size.

Length, inch.....	1/4	5/16	3/8	7/16	1/2	9/16	5/8
List Price per 100,	\$.30	.32	.33	.40	.42	.48	.52
Length, inch.....	11/16	3/4	13/16	7/8	15/16	1	
List Price per 100,	\$.56	.60	.64	.64	.72	.76	

TUBULAR RIVETS

Brass

Preferred by many mechanics for attaching brake lining, clutch facing, etc., on account of ease in handling. Carried in boxes containing 100 or 1,000 of one size.



Rivet No.	1	2	3	4
Diameter, inch.....	5/16	3/8	7/16	1/2
List Price per 100.....	\$.34	.36	.40	.43
Rivet No.	5	6	7	8
Diameter, inch.....	9/16	3/4	11/16	3/4
List Price per 100.....	\$.46	.49	.52	.55

RAYBESTOS ATTACHING KIT



Consists of a complete set of countersinks and rivet sets with drill necessary to attach brake lining of any size to car or truck.

With the above tools are included an assortment of tubular, split, and solid rivets, the complete outfit being packed in a convenient, hinged covered, wood box.

Raybestos Attaching Kit. List Price.....\$3.75

STEVENS BRAKE LINING COUNTER-SINKS



A set of these three countersinks enable a clean rivet hole of the right depth to be made in brake lining, etc., thus preventing chattering on the drum. Shanks of countersinks are 5/16 inch in diameter. For use with hand drill or power press. Made of tool steel, carefully ground.

Sold only in complete sets of three, as shown.
Stevens Brake Lining Countersinks.
List Price, Per Set.....\$1.40

RAYBESTOS BRAKE LINING CUTTER



A strong, easily operated Cutter, which entirely eliminates the waste in cutting brake lining to an exact size. Cutting blade is 3 1/2 inches wide and will cut brake lining of any thickness up to and including 1/2 inch.

A long, 15-inch handle gives great leverage and makes cutting easy.

Cutting blade easily removable for sharpening.

Occupies a minimum of space and will quickly pay for itself in the time saved.

Raybestos Brake Lining Cutter. List Price.....\$15.00

COMBINED DRILLS AND COUNTER-SINKS

For Attaching Brake Lining



Practical and efficient tools, made of best quality tool steel, with 1/2" diameter bodies.

No.	List Price, Each	Diam. of Drill
25	\$.40	3/32"
26	.40	3/32" and 1/8"
27	.40	1/8"
28	.55	5/32"
29	.55	3/16" and 5/32"
30	.55	3/16"

HAND VISE

For Attaching Brake Lining



An invaluable tool for holding brake lining in position for drilling or riveting to brake bands. Length, 5"; width of jaws, 1 1/2"; jaws open, 1 1/2". Jaws

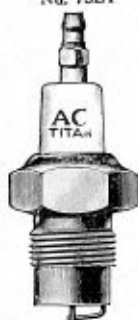
are opened by a heavy spring and closed with thumb nut and screw bolt. Steel castings finished black with polished jaws.

No. 3 Hand Vise. List Price, Each.....\$2.00

AC TITAN

\$1.00 Each

No. 78LT



$\frac{3}{8}$ " Long AC
Titan

Regular equip-
ment on Buick,
Chevrolet, Mc-
Laughlin, Buick,
Canada, Scripps-
Booth, 4 cyl.,
SSE Co. Knox,
Samson and
Wolverine
Tractors.



Spark Plugs

The Standard Quality
Plugs of the World

Carbon-Proof
Plugs

No. SAET



AC
Titan
No.
12CPT



AC
Standard
No.
12CPAC



No. 78LBT



$\frac{3}{8}$ " Long Body
AC Titan

Regular equip-
ment on Chandler,
Crane - Simplex,
White. Also Besse-
mer, Hahn, More-
land, Noble and
Robinson Fire
Trucks.

No. 78RATT



$\frac{3}{8}$ " Reg. AC

Especially designed
for high speed,
high compression
motors and for air
cooled motors.
Regular equipment
on National cars.
Particularly recom-
mended for mo-
torcycles.

No. 78BDT



Dodge Special
AC Titan

Slightly longer
than $\frac{3}{8}$ " Reg.
Regular equipment
on all Dodge cars.

AC TITAN

\$1.00 Each

No. 78RT



$\frac{3}{8}$ " Reg. AC
Titan

Regular equip-
ment on Cadillac,
Chalmers, Cole,
Dort, Hudson,
Hupmobile, Jordan,
Kissel-Kar,
Liberty, National,
Oldsmobile, 8 cyl.,
Packard, Paige-
Detroit, Peerless,
Pierce-Arrow and
109 other well
known makes of
passenger cars,
trucks and trac-
tors.

No. 12LT



No. SAELT



$\frac{3}{8}$ " Long AC Titan

Regular equip-
ment on Reo cars and
trucks. Recom-
mended for Over-
land up to 1914
and Winton up to
1915.

SAE Long AC Titan
Regular equipment
on Oakland 34-B,
Oldsmobile 6 cyl.,
Premier, Seneca, all
Nash cars up to '19
No. SAELT, or
Extra Long SAE
Titan used as reg-
ular equipment on
1919-20 Nash cars.

No. 18SMT



Short Metric
AC Titan

Recommended for
Peerless up to
1915 and Packard
up to 1914.
No. 18LMT or
Long Metric AC
Titan used as reg-
ular equipment on
Scripps-Booth 8,
Renault.

No. 18 MT



Regular Metric
AC Titan

Regular equipment
on Essex, B. & S.
Motor Wheel. Rec-
ommended for
Pierce-Arrow, '15;
all cars using Met-
ric Plugs.

No. 18LMT or
Long Metric AC
Titan used as reg-
ular equipment on
Scripps-Booth 8,

"Special Terminals"
Furnished Gratis

AC CICO

75 Cents Each

No. 78RC



$\frac{7}{8}$ " Reg. AC Cico

Regular equipment on all Dort, Federal Trucks, G.M.C. Trucks Hudson, Hop, Liberty, Paterson, Paige, Pilot Cars up to 1919. New models using $\frac{7}{8}$ " Reg. AC Titan.

No. 12LC



No. SAE



SAE AC Cico Regular equipment on all Saxon cars up to 1919. New models using SAE Reg. Titan.

Long $\frac{1}{2}$ " AC Cico

Regular equipment on all Reo cars and trucks up to 1919. New models using Long $\frac{1}{2}$ " AC Titan. No. 12ELC or Extra Long $\frac{1}{2}$ " is recommended for Metz.



Spark Plugs

The Standard Quality
Plugs of the World

No. 78ACT



$\frac{7}{8}$ " REG. AC TRACTOR

Price \$1.25

This new construction combines the advantages of the Titan Carbon-Proof one-piece design with the ready demountability of the Standard AC. It can be taken apart and reassembled any number of times without risk of spoiling the packing. Particularly recommended for Kerosene Burning Motors.

No. 12ACT or $\frac{1}{2}$ " Reg., same price as above. No. ACTP or Extra Porcelain with Bushing, 75c each.

AC CICO

75 Cents Each
No. 78LC



$\frac{7}{8}$ " Long AC Cico Regular equipment on Chevrolet 490 up to 1919. New models using $\frac{7}{8}$ " Long AC Titan.

No. 78DC



Dodge Special Cico, slightly longer than $\frac{7}{8}$ " Regular Standard equipment on all Dodge cars up to 1919. New models using Dodge Special Titan.

AC STANDARD PLUGS AND PORCELAINS

No. 12RC



$\frac{1}{2}$ " Reg. AC Cico

Recommended for Ford, Studebaker and Overland cars and all cars using $\frac{1}{2}$ " Standard Plugs.

No. 12RAC



No. 12RAC or $\frac{1}{2}$ " Reg. AC Standard

Long insulation, suitable for Ford, Overland and Studebaker. No. 12LAC or $\frac{1}{2}$ " Long AC Standard, popular for Overland cars up to 1914. Price \$1.00. No. 78RAC or $\frac{7}{8}$ " Reg. AC Std. Regular equipment on Singer. No. 7 $\frac{1}{2}$ LAC or $\frac{7}{8}$ " Long AC used on Buick up to 1914. Price \$1.00

No. 78RAC



No. 1ACP



No. 1 ACP Porcelain 35c.

No. 2CPP



No. 2 ACP Porcelain 35c.

AC-2 Carbon-Proof Porcelain 50c.

AC AVIATION

No. 18ACA



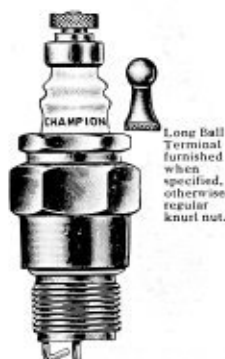
AC Aviation—Metric Size Only

Recommended for Aviation Motors, Government equipment on Liberty and Hispano-Suiza motors.

Price \$1.50

Champion Spark Plugs

CHAMPION
"Heavy Stone"



Price, \$1.25

B-13, 1/2 Inch
B-43, 3/4 Inch, 18
B-53, 3/4 Inch, 18—Long
B-73, 3/4 Inch
B-83, 3/4 Inch—Long

Specially adapted for heavy service cars, tractors, trucks, farm and stationary engines. 3/8-inch size for use in Columbia, Cadillac, Dorris, Kissel Kar, McFarlan Six, Overland Six, Willys-Knight, Willys-Six, Winton.

CHAMPION
"Priming"



Price, \$1.50

H-14, 1/2 Inch
H-44, 3/4 Inch, 18

Will start a motor on the first quarter turn.

Brings gasoline right to the sparking point.

A good winter seller.

CHAMPION
"Heavy Duty"



Price, \$1.00

J-13, 1/2 Inch
Overland type.

J-23, 1/2 Inch, Long

For use in Reo.

J-43, 3/4 Inch, 18

For use in Crow Elk-hart, Daniels, Harroun, Norwalk, Standard, and heavy service trucks.

JB-43, 3/4 Inch, 18
For Velie.

CHAMPION
"Heavy Duty"



Price, \$1.00

JC-43, 3/4 Inch, 18

For use in American, Apperson, Auburn, Chandler, Haynes, Marmon, Mercer, Monroe, Oakland, Oldsmobile 8, Premier, Revere Seneca, Stutz, Stearns-Knight Templar also truck and tractor engines.

JC-53, 3/4 Inch, 18 Long
For use in Franklin and Nash cars.

JC-63, Metric

CHAMPION
"Heavy Duty"



Price, \$1.00

JA-43, 3/4 Inch—18

For use in Beggs, Bell, Briscoe, Climber, Detroit, Geronimo, Hanson, Jackson, King, Malbohm, Olympian, Sayers, Tulsa, and heavy service trucks and tractors.

CHAMPION
"Heavy Duty"



Price, \$1.00

JAS-43, 3/4 Inch, 18

For use in Australian Six, Cole, Chalmers, Hudson, Liberty, Locomobile, Moon, National, Peerless, Hupmobile and heavy service trucks and engines.

JA-53, 3/4 Inch, Long
For use in Jordan, Phoenix (Eng.), Stephens, Westcott, and truck and tractor engines.

CHAMPION
"Aeroplane"
and Motorcycle



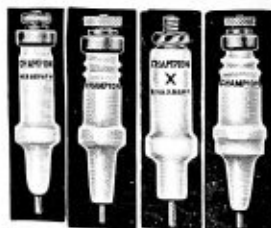
Price, \$1.00

JL-63, Metric Aero

Specially constructed for all types of aeroplanes and motorcycles. Not affected by heat or oil conditions.

CHAMPION
Insulators

Gaskets furnished with all Insulators.



A-103 Conical A-104 Petticoat A-105 "X" B-103 Heavy Steel

Insulator	Plug Type	Price
A-103	A-13, A-43	\$0.60
A-104	A-14, A-14-O,	
	A-44, A-64	.60
A-105	A-15	.50
A-204	A-24	.60
A-304	A-34	.60
A-503	A-53, A-53	.60
B-103	B-13, B-43, B-73	.65
B-503	B-53	.65
H-104	H-14, H-44	.60

Symbols ending with 3 are Conical Insulators.

Symbols ending with 4 are Petticoat Insulators.

A dealer when purchasing Champion Spark Plugs in quantity lots may assort order in any number of types. Insulators do not apply.

Champion Spark Plugs

CHAMPION
"Studebaker"



Price, \$1.00

A-13, 1/2 Inch

For Studebaker cars made previous to 1920 models, and trucks, tractors, farm and stationary engines.

For 1920 Models use A-43, 3/8 Inch, 18.

CHAMPION
1/2 Inch



Price, \$1.00

A-14, 1/2 Inch

Specially adapted for tractors, trucks, farm and stationary engines where a standard 1/2-inch plug is used.

CHAMPION "O"
For
OVERLAND CARS



Price, \$1.00

A-14 "O," 1/2 Inch

The Overland plug. Specially recommended to meet the requirements of the Overland motors.

CHAMPION "X"
Adopted by the Ford Motor Co. as standard equipment on Ford cars since 1911.



Price, \$0.90

A-15, 1/2 Inch

The following is quoted from the instruction book in each Ford car:

"There is nothing to be gained by experimenting with different makes of plugs. The make of plugs with which Ford engines are equipped when they leave the factory is best adapted to the requirements of our motor."

CHAMPION GASKETS



Patented copper asbestos gaskets—an exclusive feature of all Champion Spark Plugs.

Price Each \$0.04

CHAMPION
"Fordson"



Price, \$1.00

A-24, 1/2 Inch—Long

Equipment on Fordson tractors and for use in engines requiring a 1/2 inch long plug.

CHAMPION
3/8 Inch, 18



Price, \$1.00

A-43, 3/8 Inch, 18

For use in Allen, Dixie Flyer, Elcar, Elgin, Glide, Grant, Hollier, Jones, Kline Kar, Lexington, Packard, Paige - Detroit, Pierce - Arrow, Metz, Monitor, Moore, Studebaker "1920," and tractors, trucks, farm and stationary engines.

CHAMPION
"Maxwell"



Price, \$1.00

A-44, 3/8 Inch, 18

Maxwell Factory Equipment Plug
For use in Biddle, Dodge, Gardner, Highlander 6, Spaulding, Mitchell, States, and tractors, trucks, farm and stationary engines.

A64, Metric

For use in Essex cars, White trucks and engines requiring metric thread.

CHAMPION
3/8 Inch, 18—Long



Price, \$1.00

AA-53, 3/8 Inch, 18—Long

Made with 1 1/2-inch Hex, for use in Buick cars, tractors, trucks, farm and stationary engines.

A53, 3/8 Inch, 18—Long

For use in Chevrolet, Oldsmobile, Oakland, Interstate, and tractors, trucks, farm and stationary engines.

Buick Terminal furnished with AA-53. Regular knurl furnished with A-53 unless otherwise specified.

Champion Spark Plugs are guaranteed to give absolute satisfaction to the user, or full repair or replacement will be made.

A C SPARK PLUG DISPLAY CABINET



A handsome oak display case 34" high by 22" wide by 2 1/2" deep that may be hung on the wall or will stand on counter like an easel. Furnished free with order for 500 A. C. Spark Plugs (to be taken in one shipment) by simply signing show case agreement.

A C DISPLAY BOARD



Furnished free to those dealers who already have an A. C. Display Case received in 1918 or 1919. The board measures 18 1/4" by 31 1/2" and is just the right size to fit in the case the dealer now has. Furnished free with an order for 500 A. C. Spark Plugs (in one shipment)) and signing show case agreement.

SPARK PLUG BRUSH



A stiff, wire bristle for cleaning spark plugs. Equipped with two flat steel scrapers for cleaning inside plugs. The bristle tuft at end of brush is for cleaning inaccessible parts of brush.

Spark Plug Brush. List Price, Each.....\$.25

CHAMPION SPARK PLUG DISPLAY CASE



A handsome lithographed metal container that enables the dealer to carry a complete Champion Spark Plug stock on his counter together with chart showing the proper sizes for all cars

Front View

or trucks. Finished in bright colors. It makes a handsome appearance and will sell more Champion plugs. Size 31" long x 15" high x 11" deep. Given free with an assortment of 200



Back View

Champion Spark Plugs and 100 insulators.

CHAMPION SPARK PLUG CLEANER



Quickest and easiest way to clean a dirty plug without danger of injuring the porcelain or points. Simply screw the tube half filled with gasoline on the plug and the small steel needles will cut off all grease and dirt. Fits all spark plugs and comes packed in strong wooden box that exactly fits the tool box.

Champion Spark Plug Cleaner. List Price, Each \$.75

CHAMPION SPARK PLUG CLEANER DISPLAY CASE



Furnished free with orders for ten Spark Plug Cleaners. A handsome show case, small in size, handsomely finished in colors with space in back to carry ten cleaners. Size of display case, 10"x8 1/2"x7".

SPARK PLUG GASKETS



Best quality soft copper, high-grade asbestos. In ordering be sure to give number.

No. 1, 3/8" x 1 1/8"—Fits A. L. A. M. Plugs.

No. 2, 27/32" x 3/32"—Fits 1/2" Plug.

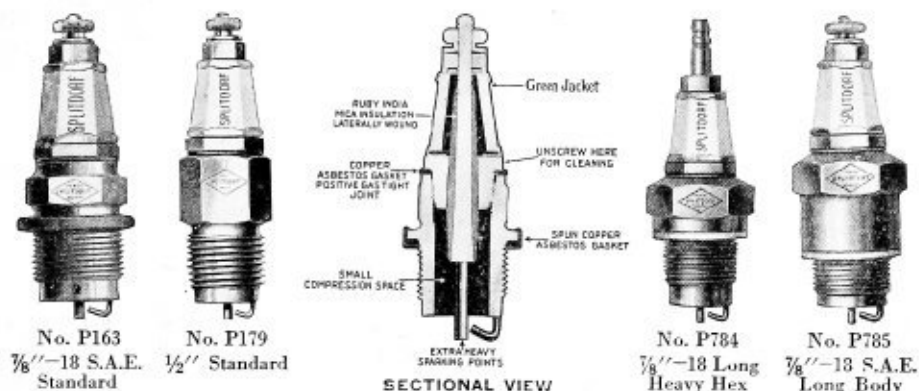
No. 3, 23/32" x 3/64"—Fits Metric Plug.

Nos. 1, 2, or 3. List Price, per 100.....\$2.00

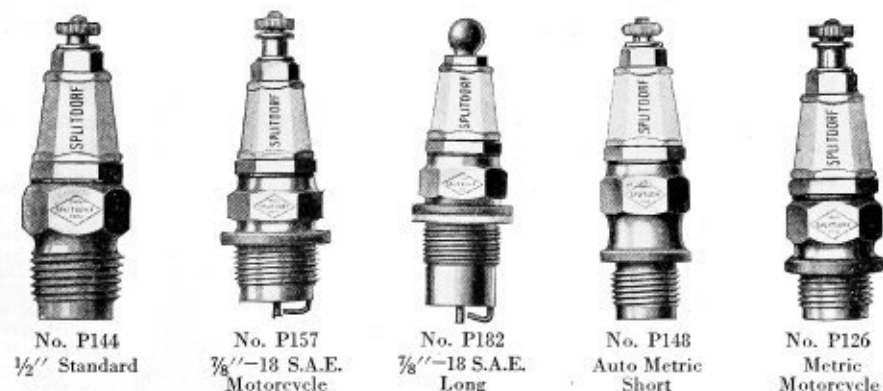
SPLITDORF SPARK PLUGS

The Plug with the Green Jacket

Made in a variety of types—in standard sizes and of special dimensions to suit engines of every make—the keynote of the highest quality is sounded in the whole line of Splitdorf Plugs. They are as nearly soot-proof, leak-proof and unbreakable as human ingenuity can make them.



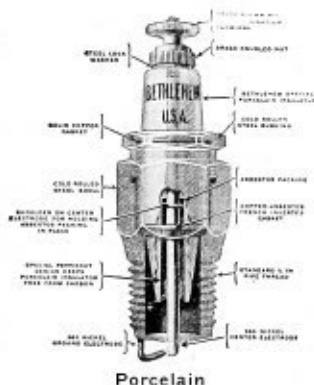
Imported mica of the highest grade known is used exclusively as insulation in Splitdorf Plugs, and this enables them to withstand the breaking-down effects of high-tension current.



Splitdorf Plugs were originally designed for the hardest kind of usage, and how well they have "stood up" to the terrific tests of speed and endurance in years of service in every make of internal combustion engine and in all quarters of the globe, is testified to in the general demand for increasing millions of plugs.

Bethlehem Spark Plugs

PETTICOAT CONSTRUCTION

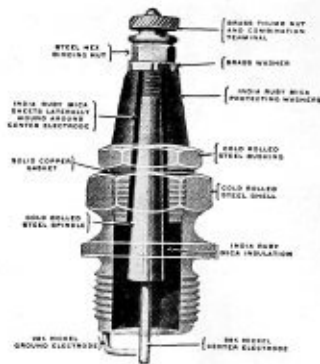


Porcelain

CONICAL CONSTRUCTION



Porcelain



Mica

Special for Ford

Beth. No. 1— $\frac{1}{2}$ " Special for Ford— $\frac{15}{16}$ " hex — petticoat insulator—extra heavy porcelain for overcoming oil condition. Special mixture steel alloy used for electrodes for best conduction and resistance against heat.

Size— $\frac{1}{2}$ " Standard Ford Special. Two-piece construction.

List Price, 75c.



Bethlehem Two-Piece Construction

For Easy Cleaning

Easily taken apart, cleaned with gasoline, put together again as good as new.



ONE-PIECE CONSTRUCTION

Beth. No. 07.— $\frac{7}{8}$ "-18 with $\frac{3}{8}$ " Hex Standard for majority of cars and trucks.

Beth. No. 08.— $\frac{1}{2}$ " Long with $\frac{3}{8}$ " Hex for Reo and others.

Beth. No. 019.— $\frac{3}{8}$ " Long with $\frac{3}{8}$ " Hex for Nash, Oldsmobile, Winton and others.

Sizes — $\frac{7}{8}$ "-18, $\frac{3}{8}$ " Long. List Price\$1.00

Beth. No. 027.— $\frac{7}{8}$ "-18 with $1\frac{1}{4}$ " Hex for Cadillac, Hudson, Packard, Paige, Pierce-Arrow, Peerless, Chalmers, etc.

Beth. No. 029.— $\frac{3}{8}$ " Special Length with $1\frac{1}{4}$ " Hex, special for Dodge; also recommended for latest model Continental Motor.

Sizes — $\frac{7}{8}$ "-18— $\frac{3}{8}$ " Special Length. List Price\$1.00



Special Terminals

All Porcelain insulator Spark Plugs are furnished with regular automobile terminals "A," and Mica Insulator Spark Plugs with motorcycle terminal "D," but any of the terminals shown will be furnished upon request. Specify by letter.

- A—Regular Automobile Terminal
B—Buick
C—Combination for Buick, Chevrolet, Willys-Knight and Regular
D—Motorcycle
E—Knight
F—Franklin



Two-Piece Construction

Specials for Buick, Chandler, etc.

Beth. No. 27— $\frac{3}{8}$ "-18 with long body— $1\frac{1}{8}$ " hex for Chandler, Hoyt, Moreland, Old Model White, Titan Trucks and Robinson Fire Trucks.

Beth. No. 29— $\frac{7}{8}$ "-18 Long— $1\frac{1}{8}$ " hex—Special for Buick. This type fits all model Buicks and is supplied with thumb nut "B." (Old type

Buick Spark Plugs will not fit latest model Buick Car.)

Beth. No. 10.—Metric—1" Hex for Essex, White Truck, Pierce-Arrow 1915, and Peerless 1915, special for motorcycles and foreign cars.

Sizes— $\frac{7}{8}$ "-18— $\frac{3}{8}$ " Long Buick Special and Metric. List Price\$1.00



Two-Piece Construction Mica

Beth. No. 61— $\frac{1}{4}$ " Standard — $15/16$ " hex for Henderson 1912 and others.

Beth. No. 62.— $\frac{7}{8}$ "-18— $\frac{3}{8}$ " Hex Special for Harley Davidson and Indian Motorcycles.

Beth. No. 63.—Metric— $15/16$ " hex. Special for Excelsior, Reading Standard and Henderson Motorcycles.

Beth. No. 101.— $\frac{3}{8}$ " Special Length— $\frac{7}{8}$ " Hex Special for Franklin, Holmes and other air-cooled cars.

Sizes— $\frac{1}{4}$ " Standard, $\frac{3}{8}$ " S. A. E. Metric and $\frac{7}{8}$ " Special. Nos. 61, 62, 63, List Price.....\$1.00 No. 101. List Price.....1.25



Bethlehem Spark Plugs

Tractors, Heavy Duty Trucks

DE LUXE TRACTOR HEAVY DUTY MICA SPARK PLUGS

Adopted as exclusive equipment on all International Harvester Tractors

Entirely different in construction from the ordinary plug. Mica is first wound laterally around the center spindle. Mica washers are then placed down over this, extending from one end of the spindle to other, giving a laminated construction. Each plug is impregnated with special binder, under heavy pressure baked, and lathe turned. No chance for oil to soak through and short circuit. Mica cannot fray or break. Center electrode is inserted in center spindle and cannot loosen. Both electrodes made of Monel metal, oxygen welded. Won't burn off.

Each Plug contains over 3 lbs. finest Mica obtainable.

List Price, Each.....\$3.50

No. 91 (3/4" Regular)—For some types of Holt, Case and Hart-Parr Tractors and others taking the 3/4" Pipe size in the regular length.

No. 92 (3/4" Long)—For International, some types of Hart-Parr and Case, and other tractors taking the extension type Tractor Plug.

No. 94 (7/8"-18)—For some types of Case, Holt and other tractors using a standard 7/8"-18 S. A. E. Spark Plug.

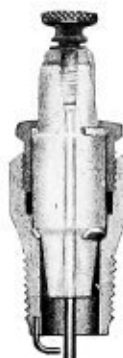
No. 95 (7/8" Long)—For some types of Holt, Mid-West and other tractors using motors which require the extension length in the 7/8"-18 S. A. E. Spark Plug. This is the length that was used in the battle tanks built by Holt, Mid-West and Chandler.

SIZES

No. 91 (3/4" Regular) No. 94 (7/8"-18)
No. 92 (3/4" Long) No. 95 (7/8" Long)

HEAVY DUTY SPECIAL 1/2" PORCELAIN TRACTOR PLUG

For Tractors or Heavy Duty Motors



Made of petticoat construction with a large heat-exposed porcelain surface which allows oil or fuel to readily burn off. Withstands tremendous heat and unlimited vibration. Center electrode is threaded part way in porcelain and cemented in preventing compression leaks and insuring highest efficiency.

No. 12 (1/2")—Especially recommended for Fordson, Avery, Moline and all other tractors and heavy duty motors using a 1/2" size.



List Price, Each.....\$1.50

REGULAR HEAVY DUTY MICA TRACTOR PLUG



The best mica plug of its type on the market. Each plug is individually wound with mica, held in place by lock nut and is guaranteed to give excellent service. Shell is similar to De Luxe Heavy Duty Mica Plug but electrodes are made from heavy alloyed steel.

Sizes—No. 81 (3/4" Regular.) No. 82 (3/4" Long.)
No. 84 (7/8"-18.) No. 85 (7/8" Long.)

List Price, Each.....\$2.50

SPECIAL EXTRA LONG 1/2" TYPE



No. 88 (1/2" Extra Long Extension)—Mica Spark Plug for some types of Hart-Parr, Waterloo Boy and other tractors requiring this long extension plug. Also recommended for Metz cars and other motors taking this special extension.

Recommended over porcelain plugs on account of its longer life. A little higher in price—cheaper in the long run.

List Price, Each.....\$1.50

Spark Plug Sizes for All Cars and Trucks

NOTE: While this List is not Guaranteed, it is furnished by the various spark plug manufacturers.

PASSENGER CARS

A. C.	Champion	Splitdorf	Bethlehem	A. C.	Champion	Splitdorf	Bethlehem
ABEOT-DETROIT				JEFFREY			
1/2" Reg. Titan or Cico.	JA-43	P-163	027	1/2" Reg. Titan or Cico.	A-43	P-163	027
ALLEN				JORDAN			
1/2" Reg. Titan or Cico.	A-43	P-163	027	1/2" Reg. Titan or Cico.	JA43	P-163	027
ANDERSON				KING			
1/2" Reg. Titan or Cico.	A-43	P-163	027	1/2" Reg. Titan or Cico.	JA-43	P-163	027
APPERSON SIX				KISSEL KAR			
S. A. E. Reg. Titan....	J43	P-163	07	1/2" Reg. Titan or Cico.	B-43	P-163	027
APPERSON EIGHT				LEXINGTON			
S. A. E. Reg. Titan....	JC-43	P-165	07	S. A. E. Titan.....	A-43	P-163	07
AUBURN				LIBERTY			
1/2" Reg. Titan or Cico.	JC-43	P-163	027	1/2" Reg. Titan or Cico.	JAS-43	P-163	027
BOUR-DAVIS				LOCOMOBILE			
1/2" Reg. Titan or Cico.	JA43	P-163	027	S. A. E. Reg. Titan....	JAS-43	P-163	027
BRISCOE				LOZIER			
1/2" Reg. Titan or Cico.				S. A. E. Titan or Cico..	JAS-43	P-165	07
BUICK, 6 Cylinder				MAIBOHM			
1/2" Reg. Titan or Cico.	A-53	P-174	29	1/2" Reg. Titan or Cico.	JA-43	P-163	07
BUICK, Model 35				McFARLAN SIX			
1/2" Reg. Titan or Cico.	JA-43	P-163	29	1/2" Reg. Titan or Cico.	B-43	P-163	027
BUICK, Prior to 1918				MAIMON			
1/2" Long Titan or Cico.	A-53	P-174	29	S. A. E. Titan.....	JA-43	P-163	07
BUICK, 1918 and Later				MAXWELL			
1/2" Reg. Titan or Cico.	B-43	P-163	027	1/2" Reg. Titan or Cico.	A-44	P-163	07
CADILLAC				MERCER			
1/2" Reg. Titan or Cico.	B-43	P-163	027	1/2" Long Titan or Cico.	A-53	P-165	029
CASE				METZ			
1/2" Reg. Titan or Cico.	JAS-43	P-163	027	Spec. Metz A. C. Cico..	A34	P-141	88
CHALMERS				MITCHELL			
1/2" Reg. Titan or Cico.	A-53	P-784	027	S. A. E. Titan.....	A-44	P-163	07
CHALMERS, Model 32				MOLINE			
1/2" Reg. Titan or Cico.	JC43	P-785	027	1/2" Reg. Titan or Cico.	B-43	P-163	027
CHANDLER				MONROE			
1/2" Long Body Titan..	A-53	P-163	27	S. A. E. Long Titan....	J-43	P-165	29
CHREVOLET				MOON			
1/2" Long Titan or Cico.	JA-43	P-163	9	1/2" Reg. Titan or Cico.	JAS-43	P-163	027
CLEVELAND				MURRAY			
1/2" Reg. Titan or Cico.	JAS-43	P-163	027	1/2" Reg. Titan or Cico.	B-43	P-163	07
COLE				NASH, Prior to 1919			
1/2" Reg. Titan or Cico.	B-43	P-163	027	1/2" Reg. Titan or Cico.	JC-43	P-163	019
COLUMBIA				NASH			
1/2" Reg. Titan or Cico.	JA-43	P-163	027	S. A. E. Ex. Long Titan.	AA-53	J-165	019
COMET				NATIONAL			
1/2" Reg. Titan or Cico.	B-43	P-163	027	1/2" Reg. Titan or Cico.	JAS-43	P-163	027
CRAWFORD				OAKLAND, Model 34			
1/2" Reg. Titan or Cico.	J-43	P-785	27	1/2" S. A. E. Long Titan.	AA-53	P-165	019
CROW-ELKHART				OAKLAND, other Models			
1/2" Reg. Titan or Cico.	J-43	P-163	027	1/2" Reg. Titan or Cico.	JA-43	P-163	019
CUNNINGHAM				OLDSMOBILE, 8 Cylinder			
1/2" Reg. Titan or Cico.	J-43	P-163	027	1/2" Reg. Titan or Cico.	JA43	P-163	019
DANIELS				OLDSMOBILE, 6 Cylinder			
S. A. E. Titan.....	JA43	P-163	027	1/2" S. A. E. Long Titan.	AA-53	P-165	019
DAVIS				OVERLAND			
1/2" Reg. Titan or Cico.	JA43	P-163	027	1/2" Carbon-Proof Titan	{ A-14-O }		
DETROITER				Cico Special.....	{ J-13-O }	P-144	07
1/2" Reg. Titan or Cico.	A-43	P-163	027	OVERLAND, 6 Cylinder			
DODGE				1/2" Long Titan or Cico.	B-53	P-165	07
Dodge Special Titan...	A-44	P-163	11	PACKARD			
DORRIS				1/2" A. C. Packard....	A-43	P-163	027
1/2" Reg. Titan or Cico.	{ B-43 }	P-163	027	PAIGE-DETROIT			
	{ B-53 }			1/2" Reg. Titan or Cico.	JAS-43	P-163	027
DORT				PATHFINDER			
1/2" Reg. Titan or Cico.	A-43	P-163	027	S. A. E. Titan.....	A-43	P-163	027
ELCAR				PATERSON			
1/2" Reg. Titan or Cico.	A-43	P-163	027	1/2" Reg. Titan or Cico.	A-43	P-163	027
ELGIN				PEERLESS			
1/2" Reg. Titan or Cico.	A-43	P-163	027	1/2" Reg. Titan or Cico.	JAS-43	P-163	027
EMPIRE				PIERCE-ARROW			
1/2" Reg. Titan or Cico.	A-43	P-163	027	1/2" Reg. Titan or Cico.	A-43	P-163	027
ESSEX				PILOT			
Reg. Metric Titan or				1/2" Reg. Titan or Cico.	JA-43	P-163	027
Cico	JIS-63	P-148	10	PREMIER			
FIAT				S. A. E. Long Titan...	AA-53	P-163	019
1/2" Reg. Titan or Cico.	B-43	P-163	027	PULLMAN			
FORD				1/2" Reg. Titan or Cico.	A-43	P-163	027
1/2" Titan Carbon-Proof	{ "X" }	P-179	1	REO			
Ford Cico.....	{ A-14 }			1/2" Long Titan or Cico.	A-23	{ P-179 }	08
FRANKLIN						{ P-141 }	
1/2" Reg. Titan or Cico.	JA43	P-182	101	ROAMER			
GRANT				1/2" Reg. Titan or Cico.	JAS-43	P-163	027
1/2" Reg. Titan or Cico.	A-43	P-163	07	ROSS			
H. A. L.				1/2" Reg. Titan or Cico.	J-43	P-163	027
1/2" Reg. Titan or Cico.	A-43	P-163	027	SAXON			
HAYNES				S. A. E. Titan.....	A-43	P-163	07
S. A. E. Titan.....	JA-43	P-163	07	SCRIPPS-BOOTH, 4 Cylinder			
HUPMOBILE				1/2" Long Titan or Cico.	A-53	P-784	29
1/2" Reg. Titan or Cico.	JA-43	P-163	027	SCRIPPS-BOOTH, 8 Cylinder			
INTERSTATE				Long Metric Titan....	JAS-63	P-178	10
1/2" Long Titan or Cico.	A-53	P-165	29	STANDARD EIGHT			
JACKSON				1/2" Reg. Titan or Cico.	J-43	P-163	07
1/2" Long Body Titan..	JA-43	P-785	27				

Spark Plug Sizes for all Cars and Trucks

NOTE: While this List is not Guaranteed, it is furnished by the various spark plug manufacturers.

PASSENGER CARS (Continued)

A. C.	Champion	Splitdorf	Bethlehem
STEARNS-KNIGHT			
S. A. E. Titan.....	JA-43	P-163	07
STEPHENS			
3/8" Long Body Titan..	JA-53	P-785	29
STUDEBAKER			
3/8" Reg. Titan or Cico.	A-43	P-163	29
STUDEBAKER			
1/2" Reg. Titan or Cico			
Special	A-13	P-179	1
STUTZ			
3/8" Reg. Titan or Cico.	JA-43	P-163	07
SIMPLEX			
3/8" Reg. Titan or Cico.	JA-43	P-163	07

A. C.	Champion	Splitdorf	Bethlehem
TEMPLEAR			
3/8" Reg. Titan or Cico.	JA-43	P-163	027
VELIE			
3/8" Reg. Titan or Cico.	JA-43	P-163	027
WESTCOTT			
3/8" Reg. Titan or Cico.	JA-43	P-163	027
WHITE			
1/2" or Metric, Reg. Ti-	(A-43	P-785	027
tan or Cico.	JIS-63	P-148	10
WILLYS-KNIGHT			
3/8" Reg. Titan or Cico.	B-43	P-163	029
WINTON			
3/8" Long Titan or Cico.	B-53	P-165	019

TRUCKS

A. C.	Champion	Splitdorf	Bethlehem
AMERICAN LA FRANCE			
3/8" Reg. Titan or Cico.	JAS-43	P-163	027
ARMLEDER			
3/8" Reg. Titan or Cico.	B-43	P-163	07
ATLAS			
3/8" Reg. Titan or Cico.	J-43	P-163	027
ATTERBURY			
3/8" Reg. Titan or Cico.	B-43	P-163	027
ACME			
3/8" Reg. Titan or Cico.	B-43	P-163	027
AUTOCAR			
3/8" Reg. Titan or Cico.	A-43	P-163	07
BESSEMER			
3/8" Reg. Titan or Cico.	B-43	P-163	027
BETHLEHEM			
3/8" Reg. Titan or Cico.	A-43	P-163	07
BROCKWAY			
3/8" Reg. Titan or Cico.	JC-43	P-163	027
BRISCOE			
3/8" Reg. Titan or Cico.	A-43	P-163	027
BUICK			
3/8" Long Titan or Cico.	A-53	P-784	29
CLYDESDALE			
3/8" Reg. Titan or Cico.	A-43	P-163	027
COLLIER			
3/8" Reg. Titan or Cico.	J-43	P-163	027
COMMERCE			
3/8" Reg. Titan or Cico.	JA-43	P-163	027
CUNNINGHAM			
3/8" Reg. Titan or Cico.	B-43	P-163	027
DAY-ELDER			
3/8" Reg. Titan or Cico.	J-43	P-163	027
DENBY			
3/8" Reg. Titan or Cico.	J-43	P-163	027
DIAMOND "T"			
3/8" Reg. Titan or Cico.	B-43	P-163	027
DISPATCH			
1/2"	A-14	P-144	1
DUPLEX			
3/8" Reg. Titan or Cico.	B-43	P-163	027
FEDERAL			
3/8" Reg. Titan or Cico.	JA-43	P-163	027
FOUR WHEEL DRIVE			
3/8" Reg. Titan or Cico.	JAS-43	P-163	027
FORD TRUCK			
1/2" Titan Carbon-Proof	A-14	P-179	1
Ford Cico	"X"	.....	.....
FORDSON TRACTOR			
1/2"	A-14	P-179	12
GARFORD			
3/8" Reg. Titan or Cico.	B-43	P-163	027
GARY			
3/8" Reg. Titan or Cico.	A-43	P-163	027
G. M. C.			
3/8" Reg. Titan or Cico.	B-43	P-163	027
GRAMM-BERNSTEIN			
3/8" Reg. Titan or Cico.	B-43	P-163	027
GRANT			
3/8" Reg. Titan or Cico.	B-43	P-163	027
HAHN			
3/8" Long Body Titan..	B-43	P-785	027
INDIANA			
3/8" Reg. Titan or Cico.	J-43	P-163	027
INTERNATIONAL HARVESTER			
3/8" Reg. Titan or Cico.	A-43	P-163	07
TRACTOR			
3/8"	B-73	3/8"	92
KEARNS			
3/8" Reg. Titan or Cico.	A-43	P-163	027
KELLY-SPRINGFIELD			
3/8" Reg. Titan or Cico.	B-43	P-163	027

A. C.	Champion	Splitdorf	Bethlehem
KISSELL			
3/8" Reg. Titan or Cico.	B-43	P-163	027
KOEHLER			
3/8" Reg. Titan or Cico.	B-43	P-163	027
LANE			
3/8" Reg. Titan or Cico.	A-43	P-163	027
LANG			
3/8" Reg. Titan or Cico.	A-43	P-163	027
LITTLE GIANT			
3/8" Reg. Titan or Cico.	A-43	P-163	027
MACCAR			
3/8" Reg. Titan or Cico.	A-43	P-163	027
MACK			
3/8" Reg. Titan or Cico.	J-43	P-163	027
MASTER			
3/8" Reg. Titan or Cico.	B-43	P-163	027
NASH			
S. A. E. Long Titan...	AA-53	P-165	..
ONEIDA			
3/8" Reg. Titan or Cico.	B-43	P-163	027
OVERLAND			
1/2" Titan Carbon Proof	J-13	P-179	1
PACKARD			
3/8" Reg. Titan or Cico.	JAS-43	P-163	027
PEELERSS			
3/8" Reg. Titan or Cico.	JAS-43	P-163	027
PIERCE ARROW			
3/8" Reg. Titan or Cico.	JAS-43	P-163	027
RAINIER			
3/8" Reg. Titan or Cico.	JAS-43	P-163	07
REO			
1/2" Long Titan.....	A23	P-141	08
REPUBLIC			
3/8" Reg. Titan or Cico.	JAS-43	P-163	027
ROWE			
3/8" Reg. Titan or Cico.	J-43	P-162	027
RUSH			
3/8" Reg. Titan or Cico.	J-43	P-163	027
RELANCE			
3/8" Reg. Titan or Cico.	B-43	P-163	027
SANDOW			
3/8" Reg. Titan or Cico.	B-43	P-163	027
SELDEN			
3/8" Reg. Titan or Cico.	B-43	P-163	027
SERVICE			
3/8" Reg. Titan or Cico.	A-43	P-163	027
STANDARD			
3/8" Reg. Titan or Cico.	JAS-43	P-163	027
STERLING			
3/8" Reg. Titan or Cico.	A-43	P-163	027
STEWART			
3/8" Reg. Titan or Cico.	A-43	P-163	027
STUDEBAKER			
1/2" Titan Carbon Proof	A-14	P-179	1
T. S.			
3/8" Reg. Titan or Cico.	JA-43	P-163	027
UNIVERSAL			
3/8" Reg. Titan or Cico.	A-44	P-163	027
VELIE			
3/8" Reg. Titan or Cico.	B-43	P-163	027
VIM			
3/8" Reg. Titan or Cico.	B-43	P-163	07
WHITE			
Metric Titan	JIS-63	P-148	10
WILSON			
3/8" Reg. Titan or Cico.	A-43	P-163	027
WINTHER			
3/8" Reg. Titan or Cico.	JA-43	P-163	027
WISCONSIN			
3/8" Reg. Titan or Cico.	JA-43	P-163	027

Rajah Spark Plugs



1/2" Regular



3/8-18 Regular

1/2" Ford
With Thumb Nut
Terminal1/2" Long
Overland-
Reo-Winton
Old ModelsMetric
Regular

Equally well adapted for battery or magneto. Genuine imported porcelains and electrodes. Simple construction for cleaning and repairing—four interchangeable parts. No screw tops to lose. Used by leading race drivers.

RAJAH "GIANT" is same general construction as regular plug, but much heavier in porcelain and metal parts. Satisfaction guaranteed in any motor.

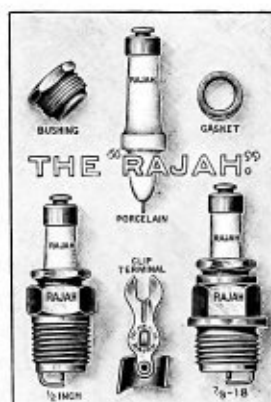
Thumb Nut Terminals furnished with all RAJAH Plugs. Stud Terminals also with 3/8-18 sizes.

RAJAH 1/2", 1/2" Ford, 1/2" Long.....	\$1.00
RAJAH 1/2" Priming	1.50
RAJAH Special Metric and Motorcycle.....	1.25
RAJAH 3/8-18 and 3/8-18 Long.....	1.00
RAJAH 1/2" and 3/8-18 Giant.....	1.25

RAJAH Porcelain	Reg. \$.50	Giant.....	.60
RAJAH Bushing	.10	"	.15
RAJAH Gasket	.05	"	.05



3/8-18 No. 2

Metric
Motorcycle

Assembly of Rajah Plug



WAINWRIGHT PISTONS

STANDARD AND OVERSIZE

Made from special analysis grey iron. Light-weight, and specially designed for each particular motor. Absolutely accurate in all details. Piston pin hole .0005" undersize to permit reamfitting, or to accommodate a worn or undersize piston pin.

Each piston is dipped in heavy oil and individually wrapped. Packed in cartons, each containing one full set (4-6-8-12) pistons in the following oversizes: .003, .005, .010, .015, .020, .03125, .040, .0625. Pistons furnished without pins or rings except Ford size, which may be purchased complete with pin or complete with pins and rings. Always purchase in complete sets to insure perfectly balanced motor.

THE LARGEST STOCK OF ALL SIZE PISTONS WITHIN 350 MILES

SERVICE STOCK LIST

OVERSIZES: Standard; .003; .005; .010; .015; .020; .025; .03125; .040; .0625

FOR PASSENGER CARS



PACKARD

Stock No. PAS-206



OAKLAND, OLDS,
SCRIPPS-BOOTH
Stock No. OK-229

Stock Number	Car	Motor	Model	Years	No. of Cyl. Inders	Bore	Price Without Pin or Rings
BU-216	Buick	own	D-45	(1st series) 1916	6	3 3/4	\$3.75
See Note 1 below.							
BU-217	Buick	own	D-45	(2nd series) 1917	6	3 3/4	3.75
See Note 2 below.							
BU-215	Buick	own	E-35, E-45, H, K	1918, 19, 20	4 & 6	3 3/8	4.00
CH-239	Chandler	own	17, 18	1917, 18, 19	6	3 3/8	5.00
CE-233	Chevrolet	own	490	all	4	3-11/16	4.50
DG-245	Dodge	own	all	all	4	3 3/8	4.75
EX-220	Essex	own	A	1919, 20	4	3 3/8	4.75
FR-178	Franklin	own	Series 9	1918, 19	6	3 3/4	6.40
FD-182	Ford	own	all	all	4	3 3/4	3.75
FD-182X	Ford (With piston pin, no rings).						4.40
FD-182C	Ford (With piston pin and step cut rings complete).						5.00
CO-164	Hudson	Cont. TN	6-40	1914-16	6	3 3/8	4.25
HUD-160	Hudson	own	Super-Six	1917-20	6	3 3/8	4.25
HP-102	Hupmobile	own	20-32	1913-15	4	3 3/8	4.50
HP-211	Hupmobile	own	K	1915, 16	4	3 3/8	4.75
HP-154	Hupmobile	own	N	1916, 17	4	3 3/8	5.50
HP-174	Hupmobile	own	R	1918, 19	4	3 3/4	4.75
MX-246	Maxwell	own	25	1914-20	4	3 3/8	4.75
OK-229	Oakland	Northway	34, 34B	1917-19	6	2-13/16	4.50
OK-229	Oldsmobile	Northway	37, 37A	1917-19	6	2-13/16	4.50
OL-201	Oldsmobile	own	45	1918, 19	8	2 7/8	5.60
CO-164	Overland	Cont. TN	89-6, 89	1917, 18	6	3 3/8	4.25
OV-237	Overland	own	75B	1619, 17	4	3 3/8	4.50
OV-243	Overland	own	90, 90B	1917-19	4	3 3/8	4.50
OV-238	Overland	own	85, 85-4	1917, 18	4	4 1/8	6.25
PA-206	Packard	own	1-25, 1-35	1916	12	3	3.65
See Note 3 below.							
PAS-206	Packard	own	2-35, 2-35				
			3-25, 2-35	1917-20	12	3	3.65
See Note 4 below.							
TH-198	Pilot	Teetor-Hartley	6-46	1918, 19	6	3 1/8	4.00
SX-183	Saxon	own	A	1913, 14	4	2 3/8	2.85
SX-191	Saxon	own	B14, B5R	1915-18	4	2 3/8	2.85
SX-218	Saxon	Cont.	S, 82R, 824	1915, 16	6	2 3/8	2.85
SX-227	Saxon	Cont.	84T, 84R, 84S, Y18	1917-19	6	2 3/8	2.85
SD-236	Studebaker	own	SF, 7 ED, EG	1915, 16, 18, 19	4 & 6	3 3/8	6.25
SD-247	Studebaker	own	SH-40, EH, 50	1918, 19	4 & 6	3 1/8	5.00
ST-234	Stutz	own	S	1917-19	4	4 1/8	8.25
Note 1—Piston pin 1/8" diam.							
Note 2—Piston pin 3/8" diam.							
Note 3—Piston pin .687" diam.							
Note 4—Piston pin 3/4" diam.							

NOTE—New Pistons to be announced from time to time.

WAINWRIGHT PISTONS FOR CONTINENTAL MOTORS



CONTINENTAL
Stock No. CO-164

Stock Number	Motor	Model	No. of Cylinders	Bore	Price Without Pin or Rings
CO-199	Continental Motor	7K, 8W, 7W	6	3 1/4	\$3.75

EQUIPMENT FOR THE FOLLOWING CARS AND TRUCKS:

Car	Models	Years	Car	Models	Years
Anderson	400, A, B, C, D, E	1918, 19	Lexington	R18, 19	1918
American			Lexington Minute Man Six		1919
Beauty	G	1918, 19	Liberty	10-B	17, 18, 19
Auburn	639, HK	1918, 19	Moon	6-43, 6Victory	1918, 19
Bour-Davis	17	1916, 17	Monitor	M, O	1919
Bour-Davis	20	1919	Paterson	6-46	1918, 19
Columbia	6 cyl.	1918, 19	Velle	Biltwell 28-38-40	1919, 20
Davis	all	17, 18, 19	Westcott	S18, S18A, A38, B38	1919, 20
Eicar	6 cyl.	1918, 19			

And many others

CO-164	Continental Motor	6A, 6H, 6N, 7D, 7H, 7N, 8D, 8H, 8N,	6 cyl.	3 1/2	\$4.25
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EQUIPMENT FOR THE FOLLOWING CARS AND TRUCKS:

Car	Models	Years	Truck	Capacity Tons	Models	Years
Bour-Davis	18B	1917, 18	Denby	1	12	1919
Hudson	6-40	1914-16	Bessemer	1	G	17, 18, 19, 20
Jordan	6-60, C, J-60, F	17, 19, 20	Diamond T	1	J5	16, 17, 18, 19, 20
Overland	80-6, 80	1917, 18	Republic	1	F	16, 17, 18
Palge	6-55, 51	17, 18, 19	Sandow	1 1/4, 1 1/2	G, CG, H	1919
Moon	7N, 6-66, 6-68	17, 19, 20	Stewart	1	8	18, 19, 20
			Tiffin	3/4, 1	A, AW	17, 18, 19, 20
			Wilson	1		17, 18, 19, 20

And many others

CO-195	Continental Motor	NA, N	4 cyl.	3 3/4	\$5.00
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EQUIPMENT FOR THE FOLLOWING CARS AND TRUCKS:

Truck	Capacity Tons	Models	Years	Truck	Capacity Tons	Models	Years
Acme	1	B	1916, 17, 18, 19, 20	Gramm-Bernstein	1 1/2	15	1919
Bessemer	1 1/2	H	1917, 18, 19, 20	Menomonic	3 1/2, 1 1/2	H, Hurryton	1916, 17, 18, 19, 20
Brockway	1 1/2	H, J, J2, 5	1917, 18, 19	Noble	1 1/2	NW1	1919
Clydesdale	1, 1 1/2	32, 42	1919	Oneida	1	A	1917, 18, 19
Commerce	1, 2	E, EP	1918, 19	Republic	1, 1 1/2	10, 11	1917, 18, 19, 20
Defiance	1 1/2, 2	B, C	1917, 18, 19, 20	Sandow	2	J, S	1918, 19, 20
Denby	2, 3	13, 15	1918, 19	Selden	1 1/2		1918, 19, 20
Diamond T	1 1/2	J4	16, 17, 18, 19	Stewart	1 1/2	9	1918, 19, 20
Federal	1	SD	1917, 18, 19, 20	Tiffin	1 1/2, 5, 6	GW, RW, SW	1918, 19, 20
G. M. C.	3/4, 1 1/2	16, 21, 31	1917, 18, 19, 20	Transport	1 1/2	20	1918, 19, 20
				Velle	1 1/2	46	1919

And many others

CO-205	Continental Motor	CA, C2, C4	4 cyl.	4 1/8	\$6.90
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EQUIPMENT FOR THE FOLLOWING CARS AND TRUCKS:

Truck	Capacity Tons	Models	Years	Truck	Capacity Tons	Models	Years
Acme	2	A	1916, 17, 18, 19, 20	Moreland	1 1/2	17, 19B	1917, 18, 19, 20
Armleder	2	HW	1917, 18, 19, 20	Nelson	1 1/2		
Atterbury	1 1/2, 2	7R, 7C	1917, 18, 19, 20	Le Moon	1 1/2, 2	F 1 1/2, 2	1918, 19, 20
Bessemer	2, 2 1/2	32	1917, 18, 19, 20	Noble	1 1/2	NW2	1918, 19, 20
Brockway	2	K3	1917, 18, 19, 20	Oneida	1 1/2, 2	B, C	1918, 19
Clydesdale	1 1/2, 2	45, 65	1918, 19, 20	Republic	2 1/2	19	1919, 20
Denby	2 1/2	25	1919	Sandow	2 1/2	D, J	1918, 19, 20
Diamond T	2	J3	1916, 17, 18, 19, 20	Selden	2 1/2	P, H, J	1917, 18, 19, 20
Federal	1 1/2, 2	TD, UD	1918, 19, 20	Signal	1, 1 1/2, 2	M, W	1918, 19, 20
G. M. C.	2	41	1917, 18, 19, 20	Stewart	2	7	1917, 18, 19, 20
Gramm-Bernstein	2	20	1919	Tiffin	2 1/2	C, E, F	1918, 19, 20
Menomonic	2	D	1917, 18, 19	Tower	2	50	1919
				Transport	2	25, 25A, 25B	1917, 18, 19
				Velle	2	R	1917, 18, 19, 20
				Wilson	2		

And many others



HUPMOBILE
Stock No. HP-211

NOTE—New Pistons to be announced from time to time.



American Hammered Piston Rings

SPECIAL FORD TYPE

SPECIAL FOR FORDS—Special size American Hammered Piston Rings for Ford cars are made to the same rigid specifications as the rings used as standard equipment on Pierce Arrow, Mercer, Stutz, Winton, White and other more expensive cars.

ONE PIECE RINGS—Easily installed—and not subject to the high breakage of multiple piece rings.

LEAKLESS—The American process of hammering assures a permanent and equal pressure against all points of the cylinder walls. For this reason American Hammered Piston Rings are leakless. They retain their tension. Heat does not affect them.

INDIVIDUALLY CAST AND TESTED—From a special grade of close grained gray iron, assuring a uniform texture. The wear, therefore, comes on the ring and not on the cylinder, thus eliminating the need for reboring. Every ring is individually tested under the Brinnell system.

CONCENTRIC—The same thickness at all points of circumference. The piston groove is filled all around, thus leaving no pocket behind the ring for oil accumulation and carbon deposits.

OVERSIZES—No extra charge for oversize rings. In ordering, always give the diameter and width of rings wanted.

SEALED CONTAINER—Every American Hammered Piston Ring comes in a sealed moisture-proof container, twelve rings to a box. The American Hammered Piston Ring trade mark is your assurance of quality.

GUARANTEED—Every American Hammered Piston Ring is guaranteed.

List Prices

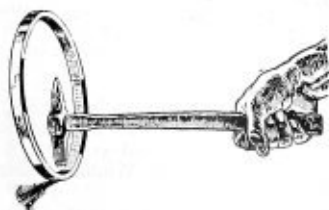
SPECIAL FORD TYPE

DIAMETER	WIDTH
3 3/4"	1/4" (Special Wall Thickness) .136"—.150"
	\$1.00

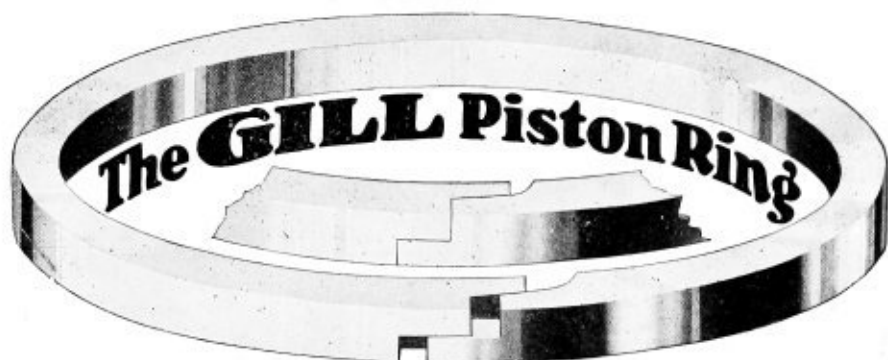
\$9.00

per set of 12

No extra charge for oversize rings



ONE PIECE LEAKLESS CONCENTRIC



THE PERFECT ONE-PIECE RING

Each GILL PISTON RING is made from an individual one-piece casting of fine gray iron machined to absolute accuracy. Their construction makes them the easiest Ring on the market to install. Guaranteed to give absolute satisfaction.

Gill Piston Rings have a patented double-step interlocking joint which allows an expansion of from $\frac{1}{8}$ to $\frac{3}{16}$ of an inch before any loss of compression occurs.

Gill Piston Rings retain the hard outer shell of the casting on the inside of ring next to piston grooves. This feature gives them a lasting tension against the cylinder walls.

Twelve Hour Service

We carry in stock every size and oversize Gill Piston Ring for all standard cars.

Sizes up to and including 4	inch.....	Each	\$1.00
Sizes up to and including 5	inch.....	Each	1.25
Sizes up to and including 5½	inch.....	Each	1.50
Sizes up to and including 6	inch.....	Each	1.75
Sizes up to and including 6½	inch.....	Each	2.00
Sizes up to and including 7	inch.....	Each	2.25
Sizes up to and including 7½	inch.....	Each	2.50

Gill Rings are packed in handsome boxes containing 12 rings of one size, wrapped in water-proof oiled paper.



When ordering Rings, state diameter of cylinder, width of ring grooves, name, year and model of car

—the genuine



Time-Tested Piston Ring Service and Profits

The nine years' success of these rings is due to their exclusive two-piece design. Both sections are of equal size and strength. This insures equal action all around the cylinder walls, which increases power, saves fuel and decreases carbon. Each section closes the expansion opening of the other. These rings are made in every size and over-size—from 1 inch to 50 inches. No extra charge for over-size—they take standard list.

LEAK-PROOF PRICE LIST

Diameter	Width and Price Each					Diameter	Width & Price Ea. 1 1/2 & over
	1/2	3/4	1	1 1/4	1 1/2 & over		
2 1/8" to 3 1/2" Inc.	\$1.75	\$1.75	\$1.75	\$1.75		9 1/2"	\$4.50
3 1/2" to 6" Inc.	2.00	2.00	2.00	2.00	\$2.00	9 3/4"	4.75
6" to 6 3/4" Inc.				2.25	2.25	10"	5.00
6 3/4" to 7 1/2" Inc.				2.50	2.50	10 1/2"	5.25
7 1/2"					2.75	10 3/4"	5.50
8"					3.00	11"	5.75
8 1/4"					3.25	11 1/4"	6.00
8 1/2"					3.50	11 1/2"	6.25
8 3/4"					3.75	11 3/4"	6.50
9"					4.00	11 7/8"	6.75
9 1/4"					4.25	12"	7.00

We carry the widely used standard and over-sizes in stock. Unusual sizes are shipped from factory same day our order is received.

These rings have been advertised for nine years. People know them and call for them. Dealers who carry the widely used sizes in stock are assured of quick turn-over with consequently satisfactory profits and satisfied customers.

There is only one LEAK-PROOF Ring—the genuine McQuay-Norris.
There is no such thing as a LEAK-PROOF type of ring.

—the genuine



A Special Ring for the Control of Excess Oil

One Superoyl Ring is used in the top groove of each piston with McQuay-Norris LEANROOF Rings in the lower grooves to insure maximum compression and power with minimum fuel consumption.

Note particularly the position and shape of the oil reservoir, which is the exclusive McQuay-Norris Superoyl design. It is not a mere groove in the face of the ring.

This reservoir is cut into the ring with mathematical exactness at an angle of 45 degrees from the intersection of the cylinder wall bearing face of the ring and

the ring's lower groove bearing face. This makes a scraping or shearing edge of the lower end of the face of the ring which forces the excess oil off the cylinder wall into the reservoir along its upper surface. The oil is thus constantly kept building up into reservoir until the down stroke is completed, when it is emptied again over the lower rings as the piston travels back up.

Superoyl PRICE LIST

Diameter	Width and Price Each				
	$\frac{1}{16}$	$\frac{1}{4}$	$\frac{3}{16}$	$\frac{1}{2}$	$\frac{3}{4}$ & over
2 3/8" to 6" Inc.	\$1.00	\$1.00	\$1.00	\$1.15	\$1.30
6 3/8" to 6 7/8" Inc.				1.25	1.40
7" to 7 3/8" Inc.				1.50	1.65
7 1/2" to 8" Inc.				1.75	1.90
8 1/2" to 8 7/8" Inc.					2.00
8 3/4" to 9" Inc.					2.25
9 1/4" to 9 3/8" Inc.					2.50
10" to 10 3/8" Inc.					2.75
11" to 11 3/8" Inc.					3.00
12"					3.50

We sell McQuay-Norris Superoyl Rings in any and every size and over-size—from one inch to fifty inches. No extra charge for over-sizes—they take standard size list. We carry in stock the widely used standard and over-sizes. We will have the factory ship, the same day the order is received there, any unusual sizes or over-sizes.

INLAND

ONE-PIECE PISTON RING

The Inland One-Piece Piston Ring, when contracted in a cylinder, tends to uncoil like a spring, in a perfect circle, exerting an even and gentle radial pressure against the cylinder. Its free ends are diagonally opposite, and all openings are effectually sealed so that no gas can escape. Being made of one piece, out of the best grade of gray cast iron, they cannot score or mar the cylinders.

Millions
In Use!

Money
Refunded
within ninety
days on any ring
that fails to give
satisfaction.

INCHES	WIDTH					
	5/32	3/16	1/4	5/16	3/8	1/2
1 1/4						
1 1/2						
1 3/4						
2						
2 1/4						
2 1/2						
2 3/4						
3						
3 1/4						
3 1/2						
3 3/4						
4						
4 1/4						
4 1/2						
4 3/4						
5						
5 1/4						
5 1/2						
5 3/4						
6						

\$1.25

Prices on 6 inches and over furnished on request

\$1.25

No extra charge for over sizes

\$1.50

Prices F. O. B. Factory

\$1.75

SNAP PISTON RINGS

Step-Cut or Lap Joint



Made by the McQuay-Norris Leak-Proof Ring Mfg. Co. to supply the demand for a low priced, accurately cut, piston ring. Each ring is cut from an individual soft grey iron casting and accurately machined to size. Packed 50 rings of one size (enclosed in wax paper) in neat round carton.



While we recommend Leak-Proof, Superoyl, Gill, or Inland Piston Rings as being superior to the Snap Ring, there is a large demand for a cheap, serviceable, well-made ring. Made in all standard sizes and widths up to 5 inches.

These rings are of the well known Step-Cut pattern.

Size	Width	List Price, Each
2 1/2 to 4 1/4"	3/16" up	.40
4 1/2 to 5"	1/2" up	.50
Ford size, 3 3/4"	1/4"	.30

The following Over-sizes will be furnished at no additional charge:

Ford—3 3/4 x 1/4 inch—.0025, .005, .010, .015, .020, .025, .031.

Dodge—3 3/4 x 3/16 inch—.003, .005, .010, .015.

All other sizes from 2 1/2 to 5 inch—.005, .010, .015, .020, .025, .031.

COMPRESSOMETER

While strictly repair shop equipment, the Compressometer is invaluable in determining the piston compression, thus showing whether regrinding of valves or new piston rings may be needed. The Compressometer is a 300-pound pressure gauge with a 2 1/2-inch dial, for attachment to spark plug opening. Equipped with two hands; one hand determining maximum compression, the other showing the compression fluctuation.

Equipped with three bushings, enabling the Compressometer to be used with 3/8 x 18 inch, 1/2 inch I. P., or 1/2 inch metric spark plug openings.



In using Compressometer the motor should be turned over with the crank by hand. Don't run engine under its own power while Compressometer is attached, as this will ruin the instrument.

Made of brass, polished nickel plated, with heavy glass cover over dial.

Compressometer, complete with Bushings.

List Price, Each.....\$8.00

VICTORY PISTON RING COMPRESSOR



Adjustable to fit all sized rings from 2 to 5 1/2 inch diameter. May be used on all style motors for insertion of piston in either top or bottom of cylinder. Consists of a 1-piece steel band, attached to jaws of a plier-like contracting device. Holds the piston rings compressed on the piston and enables piston to be inserted in cylinder in less than one minute. Finished in polished nickel plate.

Victory Piston Ring Compressor. List Price, Each.....\$2.00

BROWN AND SHARPE No. 260 INSIDE MICROMETERS



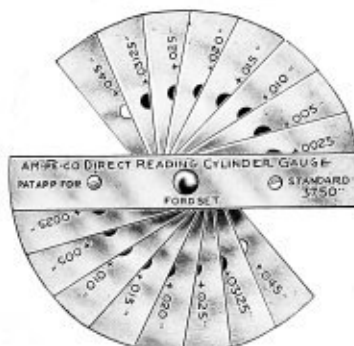
Invaluable to the mechanic in determining the exact size of cylinders, as oversize rings invariably cause trouble unless the exact size is used. Micrometer consists of holder with micrometer screw and thimble graduated to read .001. Extension rods are graduated by a series of angular grooves of the proper form and depth to allow clamping fingers to spring in and enabling adjustments to be accurately and quickly made. Range of micrometer, 2" to 9 1/2". Complete with five rods, as shown in illustration.

No. 260 Brown and Sharpe Inside Micrometer

without Case. List Price, Each.....\$9.00

Case 75c extra.

AMPECO DIRECT READING CYLINDER GAUGE



A simple, practical device that insures absolute accuracy within .00025 of an inch and enables the mechanic to instantly determine the correct size piston rings necessary for any car. Gauge consists of a series of 9 small blades and is supplied for Ford, Dodge,

Maxwell and Chevrolet sizes. Entirely eliminates expensive and delicate micrometers.

Ampeco Cylinder Gauge, any style.

List Price, Each.....\$2.50

Weed Anti-Skid Chains

For Pneumatic Tires

The only successful non-skid device in spite of a host of imitations. Every genuine Weed Cross Chain is hardened and brass plated. Extra heavy Weed Chains are now furnished for all sized Pneumatic Tired Trucks.

In ordering be sure to specify whether for trucks or pleasure cars.



CROSS CHAINS

Sold only in Bags of 100 of One Size



A size for every Car and Truck

WEED CHAINS FOR LARGE PNEUMATIC TRUCK TIRES

Made especially strong for extra hard service and recommended as being the best Pneumatic Truck Tire Anti-Skidding Device made.

Size	List Price Per Pair	Size	List Price Per Pair
*32 x 4 1/2	\$10.00	36 x 7	\$16.00
*34 x 4 1/2	10.50	*38 x 7	17.50
*35 x 5	11.50	39 x 7	18.00
36 x 5	11.50	38 x 8	18.50
37 x 5	12.00	*40 x 8	20.00
*36 x 6	13.00	*42 x 9	22.00
*38 x 6	14.00	*44 x 10	26.00

CROSS CHAINS

Size	List Price Per 100	Size	List Price Per 100
4 1/2"	\$14.00	8"	\$42.00
5"	18.00	9"	48.00
6"	26.00	10"	60.00
7"	38.00		

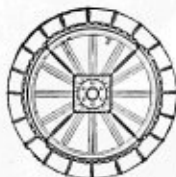
* Standard Pneumatic Truck Tire Sizes.

WEED CHAIN ADJUSTERS

Consists of four springs radiating from a center chain surrounding the hub. Attached by hooks to the side chain. Weed Adjusters hold chains taut, prevent flapping, or loss of chain from becoming unhooked.

Sizes 28"-30"-32"-34"-36". List Price, per pair.....\$1.00

Sizes 37"-38"-40"-42". List Price, per pair..... 1.50



WEED MOTORCYCLE CHAINS

Size	List Price Each
28 x 3	\$2.50

WEED MOTORCYCLE CROSS CHAINS

Size	List Price per 100
3"	\$8.00

WEED CHAINS FOR PLEASURE CARS

Size	List Price Per Pair	Size	List Price Per Pair
30 x 3	\$4.50	35 x 4 1/2	\$ 8.00
30 x 3 1/2	5.00	36 x 4 1/2	8.00
32 x 3 1/2	5.50	37 x 4 1/2	8.75
31 x 4	6.00	33 x 5	8.50
32 x 4	6.00	34 x 5	8.50
33 x 4	6.50	35 x 5	9.00
34 x 4	7.00	36 x 5	9.00
35 x 4	7.50	37 x 5	9.75
36 x 4	7.50	36 x 5 1/2	12.00
32 x 4 1/2	7.00	37 x 5 1/2	13.00
33 x 4 1/2	7.25	38 x 5 1/2	14.00
34 x 4 1/2	7.50	36 x 6	13.00

WEED CROSS CHAINS

Size	List Price Per 100 in Bags	Size	List Price Per 100 in Bags
3"	\$ 6.00	5"	\$12.00
3 1/2"	8.00	5 1/2"	15.00
4"	9.00	6"	18.00
4 1/2"	10.00		

Extra Heavy Weed Chains for Passenger Cars

Size	List Price Per Pair	Size	List Price Per Pair
30 x 3 1/2	\$7.00	34 x 4 1/2	\$10.00
32 x 3 1/2	7.50	35 x 4 1/2	11.00
31 x 4	8.50	36 x 4 1/2	11.00
32 x 4	8.50	35 x 5	11.50
33 x 4	8.75	36 x 5	11.50
34 x 4	9.00	37 x 5	12.00
32 x 4 1/2	9.00		

EXTRA HEAVY WEED CROSS CHAINS

Size	List Price Per 100	Size	List Price Per 100
3 1/2"	\$10.00	4 1/2"	\$14.00
4"	12.00	5"	18.00

RID-O-SKID TIRE CHAINS

Cheaper in price and will not give the service of genuine Weed Chains.

Size	List Price Per Pair	Size	List Price Per Pair
30 x 3	\$2.50	34 x 4 1/2	\$3.40
30 x 3 1/2	2.65	35 x 4 1/2	3.50
32 x 3 1/2	2.80	36 x 4 1/2	3.60
31 x 4	2.90	34 x 5	4.10
32 x 4	3.00	35 x 5	4.50
33 x 4	3.10	36 x 5	4.50
34 x 4	3.20	37 x 5	4.70
32 x 4 1/2	3.25		



Weed Anti-Skid Chains

For all Solid Tires

Weed Chains are daily giving splendid service on Solid Truck Tires as they cannot possibly injure the tire because of their creeping action which has proven to be the only successful anti-skid device on Pneumatics. Attached exactly like Weed Pneumatic Tire Chains—in fact their only difference is in the use of much heavier side chain and cross links.

For Single Solid Tires

Size	Price per Pair	Size	Price per Pair	Size	Price per Pair
32 x 3.....	\$ 6.00	32 x 4.....	\$ 9.00	36 x 5.....	\$13.50
34 x 3.....	6.50	34 x 4.....	10.00	38 x 5.....	14.50
36 x 3.....	7.00	36 x 4.....	11.00	40 x 5.....	15.50
38 x 3½.....	7.00	38 x 4.....	12.00	36 x 6.....	14.00
32 x 3½.....	7.50	34 x 4½.....	10.50	38 x 6.....	15.00
34 x 3½.....	8.50	36 x 4½.....	11.50	40 x 6.....	16.00
36 x 3½.....	9.50	38 x 4½.....	12.50	36 x 7.....	16.00
38 x 3½.....	10.00	34 x 5.....	12.50	38 x 7.....	17.00
				36 x 8.....	17.00

For Dual Solid Tires

Size	Price per Pair	Size	Price per Pair	Size	Price per Pair
36 x 3.....	\$12.50	38 x 4.....	\$17.00	40 x 5.....	\$19.00
34 x 3½.....	14.00	40 x 4.....	18.00	38 x 6.....	20.00
36 x 3½.....	15.00	34 x 4½.....	15.50	40 x 6.....	21.00
38 x 3½.....	16.00	36 x 4½.....	16.50	38 x 7.....	22.00
34 x 4.....	15.00	36 x 5.....	17.00	40 x 7.....	23.00
36 x 4.....	16.00	38 x 5.....	18.00		

TRUCK CROSS CHAINS

For Single Solid Tires

Size	3"	Price	\$ 9.00	per 100
Size	3½"	Price	15.00	per 100
Size	4"	Price	19.00	per 100
Size	4½"	Price	21.00	per 100
Size	5"	Price	24.00	per 100
Size	6"	Price	27.00	per 100
Size	7"	Price	30.00	per 100
Size	8"	Price	34.00	per 100

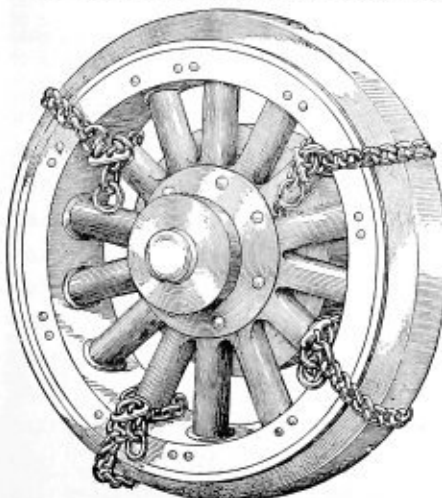
For Dual Solid Tires

Size	3"	Price	\$25.00	per 100
Size	3½"	Price	28.00	per 100
Size	4"	Price	30.00	per 100
Size	4½"	Price	33.00	per 100
Size	5"	Price	35.00	per 100
Size	6"	Price	38.00	per 100
Size	7"	Price	40.00	per 100

AMERICAN EMERGENCY UNIT TRUCK CHAINS

For Single and Dual Solid Tires

Made for all size Solid Tires by the same concern that manufactures Weed Chains. Each Unit Chain is complete in itself, and has no troublesome attachments, felloe plates, nor spoke clamps. Unnecessary to jack up wheels, as each UNIT CHAIN is attached separately, by simply looping around tire and rim at spokes. Four to six Unit Chains are recommended for each wheel.



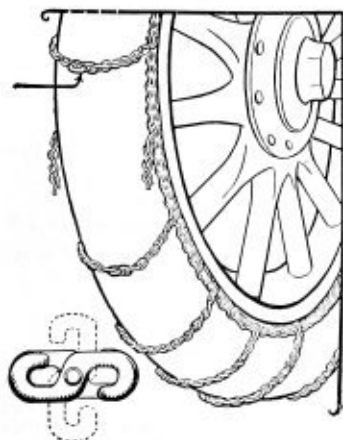
For Single and Dual Solid Tires

PRICE LIST

Size	For Single Solid Tires	For Dual Solid Tires	Approximate Weight Per 100 Pieces		Approximate Weight Per Package of 24	
			S. S.	D. S.	S. S.	D. S.
3"	\$.65 each	\$.90 each	220 lbs.	lbs.	52.8 lbs.	lbs.
3½"	.70 each	.90 each	225 lbs.	300 lbs.	54 lbs.	72 lbs.
4"	.75 each	1.10 each	230 lbs.	400 lbs.	55.2 lbs.	96 lbs.
5"	.85 each	1.20 each	265 lbs.	450 lbs.	63.6 lbs.	108 lbs.
6"	.95 each	1.40 each	290 lbs.	580 lbs.	69.6 lbs.	139.2 lbs.
7"	1.05 each	1.60 each	400 lbs.	610 lbs.	96 lbs.	146.4 lbs.

Packed in Bags of Twenty-four Pieces

REPAIR LINKS FOR TIRE CHAINS



The simplest device on the market. Consists of two "S" links fastened with a strong rivet. Repairs cross chains when worn through, side chains or any kind of chain. Small in size but extra strong. Cannot injure tires. One size fits all chains. Packed in neat canvas bags containing One Dozen Repair Links.

Skid-Chain Repair Links. List Price, per doz. \$1.00

"EMERGENCY" MUD HOOKS

Intended only for use when the car or truck is stuck in deep mud, sand, or snow, where chains would not afford sufficient traction. Easily attached by means of straps. One hook on each wheel will usually pull the car out. As soon as car is free remove the mud hooks. Made extra strong for rough usage. Sold in sets of two hooks.



With Straps Without Straps

List Price per Set for 3 and 3½" Tires...\$2.30 \$1.50

List Price per set for 4 and 4½" Tires.... 2.50 1.70

List Price per Set for 5, 5½ & 6" Tires.. 3.10 1.90

C. & H. TIRE CHAIN TOOL



A very useful tool for removing broken cross chains, opening or closing hooks, or cutting cross-chains. Its long leverage makes it easy to operate. Made of drop forged tool steel aluminum finished.

C. & H. Tire Chain Tool. List Price.....\$.75

FOSTER CHAIN TOOL



An easy method of applying tire chains. By means of a ratchet it holds chains taut, leaving hands free to hook connecting links together.

List Price.....\$.50

WEED CHAIN PLIERS

For easily and quickly repairing or replacing worn out cross links Weed Pliers have no equal. Equally convenient for applying chains to wheels. Eliminates all disagreeable work.



Opening the Hook

Closing the Hook



Patented July 29, 1913

Weed Chain Pliers. List Price.....\$.60

MACHINE CHAIN

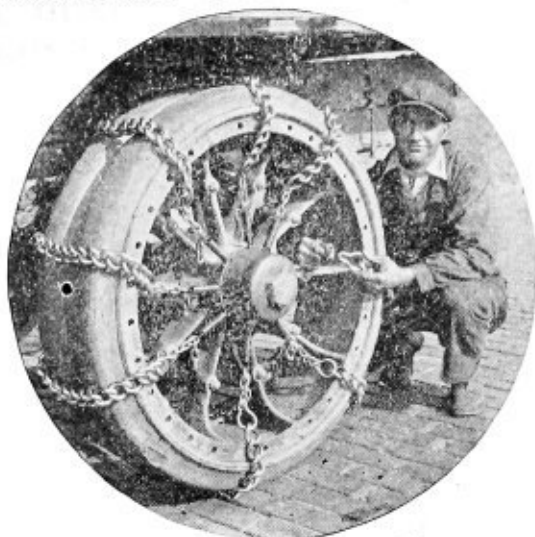


A high-grade electrically welded machine chain used for a variety of purposes.

No.	Diameter Stock	Links Per Ft.	List Price Per 100 Ft.
10-0	13/32"	10½	\$32.00
9-0	12/32"	11	30.00
8-0	11/32"	12	28.00
7-0	10/32"	13	25.00
6-0	9/32"	14	21.00
5-0	8/32"	14	18.00
4-0	7/32"	14	15.00
3-0	13/64"	14	14.00
2-0	3/16"	15	13.00
1-0	11/64"	16	12.50
1-	10/64"	16	12.00

Trax-Yun Truck Anti-Skid Chains

The best type of Solid Tire Anti-Skid Chain made. No clamp or attachments of any kind needed. Unnecessary to jack up truck—they can be put on after truck is stuck in mud in less than five minutes. Trax-Yun Chains cannot tangle up in your brakes or drive chains when they finally wear through and break, as the spring pulls them off to the outside of the wheel. Cannot injure tires as they fit loosely and slide along tire. After four years on the market Trax-Yun Chains remain unequalled for solid tire trucks. Recommended by all large truck fleet owners.



On Single Tires



A Trax-Yun Cross Chain



On Dual Tires

PRICE LIST ON TRAX-YUN CHAINS For Single Solid Tires

Size	List Price Per Set†	List Price Extra Cross Chains	Size	List Price Per Set†	Extra Cross Chains
32 x 3	\$12.25	\$.70	*36 x 5	\$28.00	\$1.80
36 x 3	14.50	.85	34 x 6	28.00	1.80
*32 x 3½	17.00	1.05	*36 x 6	29.25	1.85
34 x 3½	17.75	1.05	38 x 6	30.75	2.00
36 x 3½	19.75	1.25	39 x 6	32.00	2.00
32 x 4	18.25	1.15	*36 x 7	33.00	2.15
*34 x 4	20.75	1.35	40 x 7	36.75	2.20
36 x 4	22.25	1.35	36 x 8	33.00	2.15
38 x 4	25.00	1.60	40 x 8	36.75	2.20
34 x 4½	21.25	1.35	36 x 10	35.25	2.35
*34 x 5	26.75	1.75	40 x 12	41.25	2.60

For Dual Solid Tires

Size	List Price Per Set†	List Price Extra Cross Chains	Size	List Price Per Set†	Extra Cross Chains
36 x 3	\$27.00	\$1.80	40 x 5	\$39.75	\$2.35
34 x 3½	29.25	1.95	.42 x 5	41.00	2.40
36 x 3½	30.75	2.05	36 x 6	38.00	2.55
34 x 4	30.75	2.00	38 x 6	39.75	2.65
*36 x 4	33.00	2.15	42 x 6	45.50	2.75
40 x 4	36.75	2.20	*40 x 6	41.50	2.60
*36 x 5	35.25	2.35	*40 x 7	46.75	2.80
38 x 5	36.75	2.50	42 x 7	49.25	2.95

Rings 40c each. Springs 9c each.

In ordering, please specify size of tires, make and capacity of truck.

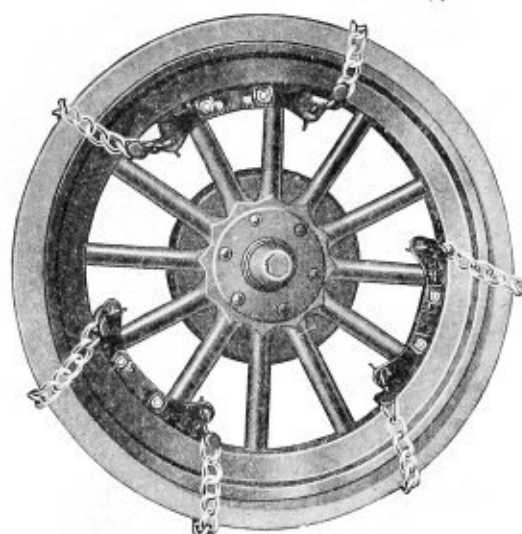
† Set consists of either fourteen or sixteen chains complete with necessary springs and rings. Large Dual sizes have sixteen.

* These are very popular sizes. Order heavy on them.

PITTSBURGH AUTO EQUIPMENT CO.

Giant Grip Traction Chains

FOR MOTOR TRUCKS WITH WOOD WHEELS—SOLID TIRES

 $\frac{3}{4}$ to 7 Tons Capacity

Giant Grip Twin Clamp

STANDARDIZED

FOUR SIZES FIT ALL TRUCKS WITH WOOD WHEELS—SOLID TIRES

Tire Size	Equipment Number	Price Complete
Single		Six Twin Clamps Twelve Chains
3½ inch.....	Ford A.....	\$23.28
4 ".....	70 C.....	28.44
5 ".....	70 E.....	29.16
6 ".....	80 F.....	34.08
7 ".....	80 K.....	34.80
Dual		
4 ".....	80 L.....	36.00
5 ".....	90 N.....	44.64
6 ".....	90 S.....	46.80
7 ".....	90 T.....	48.00

GIANT GRIP TRACTION EQUIPMENT is sold to TIRE SIZE. One style clamp fits all trucks with wood wheels—solid tires. Clamps drop forged, rust-proofed, made in four sizes graduated to truck tonnage and will outlast the truck.

Complete set six Twin Clamps and twelve chains cut to correct length, packed in one case. Three clamps are attached to each rear wheel. Each clamp anchors two chains.

Only upkeep is replacement of worn chains which is nominal.

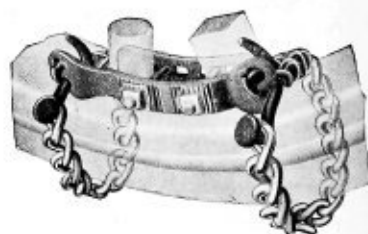
Brake connections cannot be damaged by broken chains. The open hook to which one end of chain is attached, permits chain to drop off if broken.

No complicated stock clamps and chains. No intricate and often incorrect list of trucks. TIRE SIZE is all you need; complete equipment that will absolutely fit packed in one case marked with TIRE SIZE. Deliver it as it is—no grief, no come-back—it stays sold.

For a complete set clamps and chains specify equipment number according to tire size.

For a set of clamps only give equipment number and specify "clamps only."

For chains only specify chain symbol or chain size.

A COMPLETE UNIT
TWIN CLAMP AND CHAINS

SINGLE TIRES

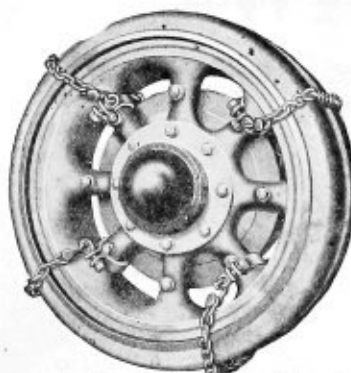
TIRE SIZE	3½ in	4 in.	5 in	6 in	7 in.
Equipment Number.....	Ford A	70 C	70 E	80 F	80 K
Price Complete	\$23.28	\$28.44	\$29.16	\$34.08	\$34.80
6 Clamps 12 Chains.....	18.00	21.00	21.00	24.00	24.00
Price 6 Twin Clamps.....	5.28	7.44	8.16	10.08	10.80
Price 12 Chains.....	3.00	3.50	3.50	4.00	4.00
Price Unit Twin Clamp.....	.44	.62	.68	.84	.90
Chain Symbol and Size.....	A 9-32x17	C 5/16x21	E 5/16x23	F 11/32x25	K 11/32x27
Connecting Hook Number.....	H-5	H-5	H-5	H-6	H-6
Price Hooks, each.....	.35	.35	.35	.40	.40

DUAL TIRES

	4 in.	5 in	6 in.	7 in.
Equipment Number.....	80 L	90 N	90 S	90 T
Price Complete	\$36.00	\$44.64	\$46.80	\$48.00
6 Clamps 12 Chains.....	24.00	27.00	27.00	27.00
Price 6 Twin Clamps.....	12.00	17.64	19.80	21.00
Price 12 Chains.....	4.00	4.50	4.50	4.50
Price Unit Cross Chain.....	1.00	1.47	1.65	1.75
Chain Symbol and Size.....	L 11/32x30	N ¾x32	S ¾x36	T ¾x38
Connecting Hook Number.....	H-6	H-6	H-6	H-6
Price Hooks, each.....	.40	.40	.40	.40

Giant Grip Traction Chains

FOR MOTOR TRUCKS WITH STEEL WHEELS, SOLID TIRES



Smith Steel Spoke Wheel

When Ordering
Equipment
FOR
Steel Wheels
Specify

Make of Wheel.
Type of Wheel Disc
or Spoke.
Number of Spokes.
Size of Tire—Single or
Dual.



Dayton Steel Spoke Wheel

CLAMPS

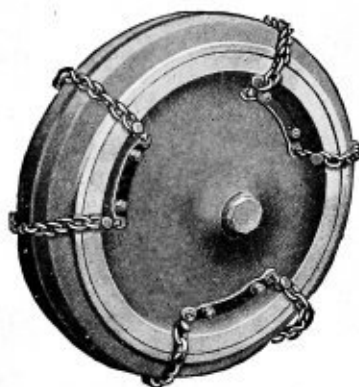
Nos. 28 and 57



No. 28 Clamps fit Smith steel spoke wheels on trucks from 1 to 2 tons capacity.

No. 57 Clamps fit Smith steel spoke wheels on trucks from 2½ to 7 tons capacity.

No. 54 Clamps fit West Steel spoke wheels used on 1918 and previous models 3 to 5 ton White trucks.



Steel Disc Wheel
Clamp No. 66

No. 66 Giant Grip Twin Clamps equip all types of steel disc wheels.



CLAMPS

Nos. 58 and 59



No. 58 Clamps fit Dayton steel spoke wheels on trucks from 2½ to 3½ tons capacity.

No. 59 Clamps fit Dayton steel spoke wheels on trucks over 3½ tons capacity.

Owing to the considerable variation in styles of steel wheels Giant Grip Equipment for steel wheels is packed clamps and chains separately, so in ordering specify Clamps by number and Chains by symbol according to TIRE SIZE.

PRICES PER SET CLAMPS AND CHAINS COMPLETE

Clamp Units No. Per Set	Single Tires				Dual Tires			
	5 in.	6 in.	7 in.		4 in.	5 in.	6 in.	7 in.
	B	D	G		H	M	P	R
28	10	\$24.00	\$24.60	\$26.40	\$27.00	\$31.00	\$32.80	\$34.70
54	10	22.50	23.10	24.90	25.50	29.50	31.30	33.20
57	8	22.00	22.48	23.92	24.40	27.60	29.04	33.70
57	10	27.50	28.10	29.90	30.50	34.50	36.30	38.20
57	12	33.00	33.72	35.88	36.00	41.40	43.56	45.84
58	10	27.50	28.10	29.90	30.50	34.50	36.30	38.84
58	12	33.00	33.72	35.88	36.00	41.40	43.56	45.20
59	10	27.50	28.10	29.90	30.50	34.50	36.30	38.84
59	12	33.00	33.72	35.88	36.00	41.40	43.56	45.20
66	6	33.00	33.72	35.88	36.00	41.40	43.56	45.84

PRICES PER UNIT CLAMPS AND CHAINS

Chain Symbol	B	D	G	H	M	P	R
Size.....	5-16x17	5-16x19	11-32x22	11-32x24	3-8x26	3-8x30	3-8x34
Price per Unit	\$.50	\$.56	\$.74	\$.80	\$1.20	\$1.38	\$1.57
Clamp Nos....	28	57	58	59	54	66	
Price per Unit	1.90	2.25	2.25	2.25	1.75	4.50	

CONNECTING HOOKS

H-6 Hooks for Clamps Nos. 54, 57, 58, 59, 66.	Price, each..\$.40
H-5 Hooks for Clamp No. 28.	Price, each..... .35

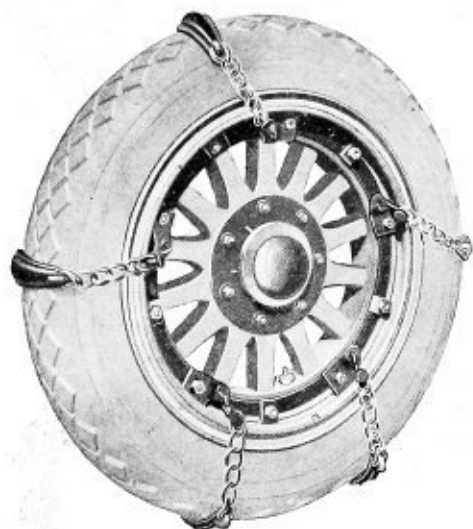
Giant Grip Traction Chains

FOR MOTOR TRUCKS WITH WOOD OR STEEL WHEELS

PNEUMATIC TIRES

The only Traction Equipment for Pneumatic tired trucks which can be attached when wheel is deep in mud or snow.

Giant Grip Traction Shoes protect the tire tread and insure Positive Traction.



Tire Size	Equipment Number	Price Per Set	Price Set Clamps Only	Price Set Chains and Shoes
4½ or 5 in.	*110	\$30.00	\$18.00	\$12.00
5 inch	115	30.00	20.00	10.00
6 inch	116	35.00	22.50	12.50
7 inch	117	35.00	22.50	12.50
8 inch	118	40.00	25.00	15.00
9 inch	119	40.00	25.00	15.00
10 inch	120	45.00	27.50	17.50

*No. 110 Equipment is for Demountable Rims only that are attached with SIX tire rim locks. Supplied in sets of twelve unit clamps complete with chains and Traction Shoes. One unit clamp to replace each tire rim lock.

Numbers 115 to 120 are for Demountable Rims only that are attached with TEN tire rim locks.

Complete Unit
Pneumatic
Equipment



Supplied in sets of ten unit clamps complete with chains and Traction Shoes. One unit clamp to replace each alternate tire rim lock.

All Equipment for Pneumatic Tires packed according to tire size; necessary clamps, chains and Tire Shoes complete in one case.

IMPORTANT—This Equipment cannot be used on any truck having less than 1¼ inch clearance between brake connections and felloe.

EQUIPMENT FOR SEWELL CUSHION WHEELS AND MORAND CUSHION WHEELS

Twin Clamp and Clip Bolt



Attached to Spoke on
Outside of Wheel

Giant Grip Clamps No. 32-Sewell and No. 33-Morand solve the problem of a device which is left permanently attached to the wheels and to which cross chains are quickly attached or detached as required. Packed six Twin Clamps and twelve T-Hook Plates (without chains) to a set. Necessary chains extra, according to tire size.

T Hook Plates



Bolted to Felloe on
Inside of Wheel

In ordering specify make of Truck and Tire Size.

Full information furnished upon request.

"WHITNEY" CHAINS



Made by specialists, in a shop especially equipped for the making, with years of experience to back them; made from material chosen for quality, regardless of cost, and all care taken in the manufacture, makes "Whitney" Chains stand foremost. They are favorably known from the Atlantic to the Pacific by jobbers, dealers and users.

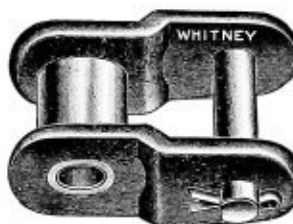
Prices either Detachable or Riveted.



Connecting Link.



Assembled Center Block.



Offset Link.

Pitch	Diam. of Roll	Width of Roll	Chain Number	Chain per Foot	Assembled Center Block	Connecting Link	Offset Link	Cotter Pins per 100
5/8"	1/2 w	1 1/4	143	\$.55	\$.07	\$.09	\$.15 1/2	Riveted only
3/4"	5/8 w	1 1/2	101	.94	.08 1/2	.10	.20	.46
	5/8 w	1 1/2	102 & 202	.99	.08 1/2	.10 1/2	.20 1/2	.46
	5/8 w	1 1/2	103 & 203	1.04	.09	.10 1/2	.21	.46
	5/8 w	1 1/2	104 & 204	1.13	.10 1/2	.11	.22	.46
1"	3/4 w	3/4	5	1.41	.15 1/2	.19 1/2	.39	.52
	3/4 w	3/4	6 & 206	1.41	.15 1/2	.19 1/2	.39	.52
	3/4 w	3/4	7 & 207	1.49	.16 1/2	.21 1/2	.42	.52
	3/4 w	3/4	208	1.64	.18 1/2	.22 1/2	.45	.52
	3/4 w	3/4	105	1.25	.14	.16 1/2	.33	.52
	3/4 w	3/4	106 & 406	1.25	.14	.16 1/2	.33	.52
1 1/8"	1 1/8 w	1 1/8	69* & 469*	1.36	.16 1/2	.21 1/2	.42 1/2	.52
	1 1/8 w	1 1/8	94*	1.80	.14	.17	.34	.63
1 1/4"	3/4 w	3/4	10	1.85	.26 1/2	.30 1/2	.61	.63
	3/4 w	3/4	11 Sp	1.85	.26 1/2	.30 1/2	.61	.63
	3/4 w	3/4	11 & 211	1.85	.26 1/2	.30 1/2	.61	.63
	3/4 w	3/4	12 & 212	2.00	.27 1/2	.33 1/2	.67 1/2	.63
1 1/2"	7/8 w	7/8	70 & 470	1.51	.20 1/2	.26	.52	.52
	7/8 w	7/8	71 & 471	1.51	.20 1/2	.26	.52	.52
	7/8 w	7/8	15	2.55	.45 1/2	.45 1/2	.91	.80
	7/8 w	7/8	16 & 216	2.55	.45 1/2	.45 1/2	.91	.80
1 3/4"	1 w	1	17 & 217	2.74	.48 1/2	.51 1/2	1.02 1/2	.80
	1 w	1	75	2.03	.35 1/2	.36 1/2	.73 1/2	.63
	1 w	1	76	2.03	.35 1/2	.36 1/2	.73 1/2	.63
1 3/4"	1 w	1	22 & 220	3.05	.59 1/2	.70 1/2	1.40 1/2	1.10
2"	1 1/2 w	1 1/2	30 & 230	3.68	.78 1/2	.98 1/2	1.97	1.45

w—Roll Diameters marked "w" are "Whitney" Standards.

*—Chains marked * are of the "Bushing" type (without Rolls).

"Whitney" Chains are furnished with regular side plates for ordinary service or with deeper side plates for extra severe duty. These are numbered in 200 and 400 sizes while all other numbers are of the regular side plate type. Both chains will run on the same sprocket but care must be taken that sprocket hubs etc. do not come in contact with the edges of the deeper side plates.

**No. 145
ROLLER
CHAIN.**



**Pitch 5/8 Inch
for
Motorcycles.**

IN ORDERING GIVE MAKE, MODEL AND YEAR OF TRUCK.

LYON BUMPERS

Fitting All Cars

CAR	FRONT	REAR
Allen	Three-Way	Frame Clamp.
American Six	Three-Way	Frame Clamp.
Anderson Car	Three-Way	Frame Clamp.
Auburn Small Six	Three-Way	Frame Clamp.
Auburn Big Six	Three-Way	Frame Clamp.
Buick Small Six, 1919	New-Way or Three-Way	Buick Rear.
Buick Large Six, 1919	New-Way	Buick Rear.
Buick Four	Three-Way or Regular	Three-Way or Regular.
Buick Large 6, 1918 & earlier Mod.	Three-Way or Regular	Buick Rear, 1917-18.
Buick Small 6, 1918 & earlier Mod.	Three-Way or Regular	Buick Rear, 1917-18.
Cadillac	Three-Way or New-Way	Special Rear.
Case	Three-Way	1918-19 Model Frame Clamp.
Chalmers	New-Way or Three-Way	Frame Clamp.
Chandler	Three-Way	Frame Clamp.
Chevrolet 400	Special Front	Special Rear.
Chevrolet Baby	Three-Way	Special Rear.
Chevrolet 8 Cylinder	Three-Way	Special Rear.
Cole Eight, 1918-19	New-Way	Frame Clamp.
Cole Eight, earlier Models	Three-Way	Frame Clamp.
Columbia	Three-Way	1918-19 Model Frame Clamp.
Comet	Three-Way	1918-19 Model Frame Clamp.
Crow-Elkhart	Three-Way	Frame Clamp, 1917 Spring Clamp.
Cunningham	Three-Way	Spring Clamp.
Daniels Eight	New-Way or Three-Way	Frame Clamp.
Davis	Three-Way	Frame Clamp.
Detroit Electric	Regular	Spring Clamp.
Detroit Electric, Models 75-76	Three-Way or Regular	Frame Clamp.
DeSoto	Three-Way	Frame Clamp.
Dodge	Three-Way (Special Bolts on request).	Frame Clamp.
	or New-Way	Spring Clamp.
Dorris	Three-Way	
Dort	Three-Way	
Elcar	Three-Way	1917 Spring Clamp, 1918-19 Regular.
Elgin	Three-Way	Special Rear.
Empire	Three-Way	Spring Clamp.
Essex	New-Way or Three-Way	Frame Clamp.
Ford	Special Front	Special Rear.
Ford—Equipped with Hassler Shock Absorbers	Special Front, use 1916 Ford Attachment.	
Franklin	Special Front	Special Rear.
Gilde	Three-Way	Spring Clamp.
Grant	Three-Way or New-Way	
H. A. L.	Three-Way	Frame Clamp.
Halliday	Three-Way	Spring Clamp.
Haynes	Three-Way	
Hollier Eight	Three-Way or New-Way	1918-19 Model Frame Clamp.
Hudson	Three-Way	
Hupmobile	Three-Way or New-Way or Regular	Frame Clamp.
Interstate Six	Three-Way	Frame Clamp.
Jeffery	Three-Way	Spring Clamp.
Jordan	Three-Way	Frame Clamp.
King	Three-Way	
Kissel	Three-Way	Spring Clamp.
Lexington	Three-Way	Frame Clamp.
Liberty	Three-Way	Frame Clamp.
Locomobile	Three-Way	
Maibohm	Three-Way	Frame Clamp.
Marion	Three-Way	Frame Clamp.
Marmou	New-Way or Regular, using U Bolts only for attaching.	
Maxwell	Three-Way	1918-19 Model Frame Clamp, 1917 Spring Clamp.
McFarlan	Three-Way or New-Way	
Mercer	Three-Way or Regular	Frame Clamp.
Mitchell	New-Way or Three-Way	Special Rear.
Moline	Three-Way	
Monroe	Three-Way	1918-19 Model Frame Clamp.
Moon	Three-Way or Regular	Frame Clamp.
Murray	Three-Way	Spring Clamp.
Nash	Three-Way	Frame Clamp.
National	New-Way	
Oakland Four	Three-Way	Spring Clamp.
Oakland Six	Three-Way	Frame Clamp.
Oakland Eight	Three-Way	Spring Clamp.
Oldsmobile Eight	Three-Way	
Oldsmobile New Six	Three-Way	Frame Clamp.
Overland	Three-Way or New-Way	
Packard 1918-19	New-Way or Three-Way	Frame Clamp.
Paige	Three-Way or Regular	
Paterson	Three-Way	Spring Clamp.
Peerless	New-Way or Three-Way	Special Rear.
Pilot	Three-Way	
Premier	Three-Way or New-Way	
Reo-Four	Three-Way	1918-19 Model Frame Clamp, 1917 Spring Clamp.
Reo-Six	Three-Way	
Roamer	Three-Way	Frame Clamp.
Ross	Three-Way	Frame Clamp.
Saxon Six	Special Front	
Scripps-Booth	New-Way or Three-Way	
Simplex	Three-Way or Regular	1918-19 Model Frame Clamp.
Standard	Three-Way	
Stanley	Three-Way or Regular	1918-19 Model Frame Clamp.
Stevens	Three-Way	
Stevens Six	Three-Way	Frame Clamp.
Studebaker 1917 or earlier Models	Three-Way	Spring Clamp.
Studebaker Light 4	Three-Way or New-Way	Frame Clamp.
Studebaker Light 6	Three-Way or New-Way	Frame Clamp.
Studebaker Big Six, Series 19	New-Way	Frame Clamp.
Stutz 1919	New-Way	
Stutz 1918 and earlier Models	Three-Way or New-Way	
Templar	Three-Way	Frame Clamp.
Velle	Three-Way or Regular	Spring Clamp.
Waverly Electric	Regular	
Westcott	Three-Way or New-Way	
White	New-Way	Frame Clamp.
Willys	New-Way or Three-Way	
Winton	New-Way or Three-Way	Spring Clamp.

LYON BUMPERS

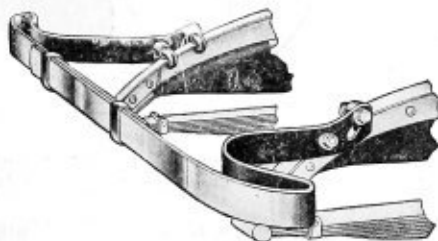
Consists of two powerful Spring Steel Leaves securely joined by strong clips with four sturdy $\frac{3}{8}$ " hook-bolts for attachment to car. The supporting arms are an integral part of the Bumper, thus eliminating all weak joints. In fact, the impact of a car moving at fifteen miles per hour will not injure bumper or car, simply giving a slight recoil. Many insurance companies now grant a 15 per cent reduction on collision insurance for automobiles equipped with Lyon Bumpers in front and rear; 10 per cent reduction when front Bumpers only are used. This reduction pays half the cost of the Bumper the first year. Guaranteed not to rattle. The Lyon Three-Way Bumper attachment enables practically all cars to be fitted with one type Bumper.

Cars equipped with Hartford Shock Absorbers or Gabriel Snubbers that interfere with attachment of Lyon Bumpers should use Lyon New-Way Bumper.

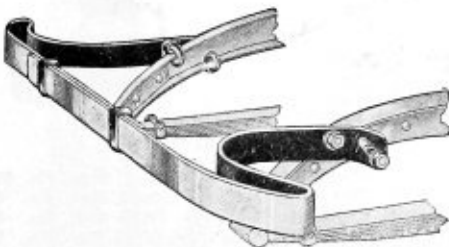
LYON BUMPER—"THREE-WAY ATTACHMENT"



Apply to BOTTOM EDGE of frame when MUD GUARD and SPLASH PAN extend to the frame end. No alteration necessary. The illustration shows the splash pan broken away in order to illustrate how the attachment is effected.



Apply to TOP EDGE of frame when SPLASH PAN is located at the BOTTOM as on the Reo, Overland, etc.



Where there is no splash pan to interfere, the bumper can be INVERTED and applied to BOTH TOP and BOTTOM EDGES of frame.

LYON "THREE-WAY" BUMPERS

Medium Size (for Medium Weight Cars)

- No. 101. Black with Nickel Trimmings.....\$12.50
 No. 102. Nickel with Black Trimmings..... 14.00
 2 x $\frac{3}{8}$ inch metal, $\frac{3}{4}$ inch reinforced front.
 Shipping weight 48 lbs.—boxed.

Large Size (for Heavy Cars)

- No. 104. Black with Nickel Trimmings.....\$14.50
 No. 105. Nickel with Black Trimmings..... 16.50
 2 $\frac{1}{4}$ x $\frac{3}{8}$ inch metal, $\frac{3}{4}$ inch reinforced front.
 Shipping weight 53 lbs.—boxed.

LYON "REGULAR" BUMPER



THE LYON "REGULAR" BUMPER differs from the "Three-Way" Lyon Bumper only in the matter of attachment.

The "Regular" Bumper is now used in cases where the "Three-Way" Bumper cannot be applied. It is just as efficient and has all the bumping advantages of the "Three-Way" Bumper.

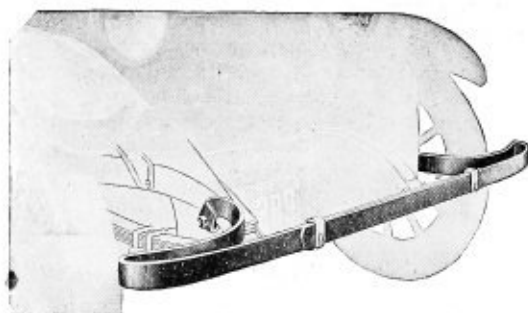
Medium Size (for Medium Weight Cars)

- No. 1. Black with Nickel Trimmings.....\$12.50
 No. 2. Nickel with Black Trimmings..... 14.00
 (2 x $\frac{3}{8}$ in. metal $\frac{3}{4}$ in. reinforced front.)
 Shipping weight 49 lbs.—boxed.

Large Size (for Heavy Cars)

- No. 4. Black with Nickel Trimmings.....\$14.50
 No. 5. Nickel with Black Trimmings..... 16.50
 (2 $\frac{1}{4}$ x $\frac{3}{8}$ in. metal $\frac{3}{4}$ in. reinforced front.)
 Shipping weight 54 lbs.—boxed.

LYON NEW-WAY BUMPER



Attention is called to small space needed for attaching to Car Frame. This Bumper is designed for use where Shock Absorbers or Gabriel Snubbers interfere with the Application of "Three-Way" Type.

FOR LARGE SIZE CARS

2 1/4 inch face, 3/4 inch thick at center.

No. 304. Black Enamel, Nickel Trimmings. Ea. \$15.50

No. 305. Nickel Finish, Black Trimmings. Ea. 17.50

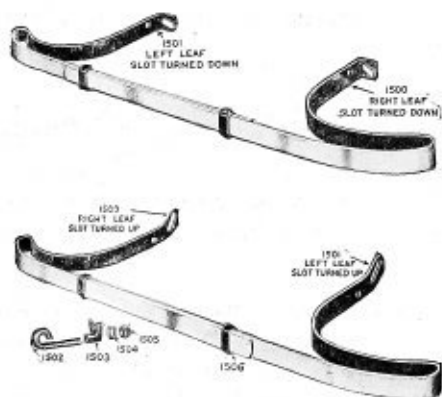
FOR MEDIUM SIZE CARS

2 inch face, 3/4 inch thick at center.

No. 301. Black enamel, Nickel Trimmings. Ea. \$13.50

No. 302. Nickel Finish, Black Trimmings. Ea. 15.00

LYON BUMPER PARTS "THREE-WAY ATTACHMENT"



As this Bumper is applied with either edge up, the right sometimes becomes a left side, and in ordering the spring leaves, first ascertain whether the slots are turned up or down as illustrated, and give the number of the part required.

Price List of Parts

No. 1500-1501.	Black Steel Leaves, med. size.	Ea.	\$5.00
No. 1500-1501.	Nick. Steel Leaves, med. size.	Ea.	6.00
No. 1500-1501.	Black Steel Leaves, large size.	Ea.	6.00
No. 1500-1501.	Nick. Steel Leaves, large size.	Ea.	7.00
No. 1502	Eye Bolts	Ea.	.30
No. 1503	Bolt Sleeve	Ea.	.19
No. 1504	Lock Washer	Ea.	.03
No. 1505	5/8 Hex. Nut	Ea.	.03
No. 1506	Front Clip, large or med. size Blck.	Ea.	.75
No. 1506	Front Clip, large or med. size, Nick.	Ea.	1.25

LYON REAR BUMPERS

"Frame Clamp" Bumpers

For all cars having a frame extension in the rear.

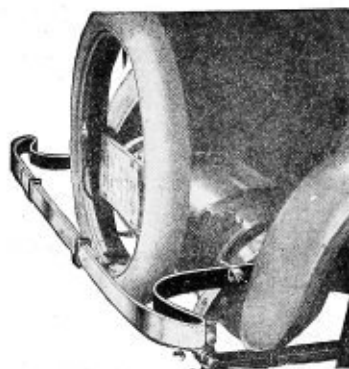
No. 51. Black with Nickel Trimmings.

\$12.50

No. 52. Nickel with Black Trimmings.

\$14.00

Shipping weight 45 lbs. Boxed.



"Spring Clamp" Bumpers

For all cars having 3/4 elliptic springs. Guaranteed not to work loose or to affect the resiliency of the springs.

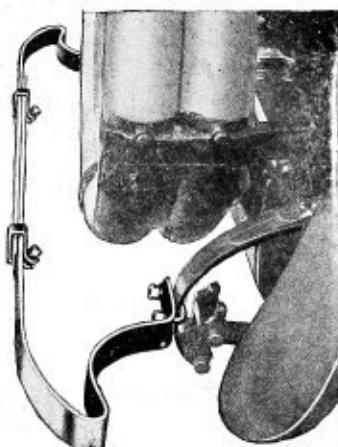
No. 41. Black with Nickel Trimmings.

\$12.50

No. 42. Nickel with Black Trimmings.

\$14.00

Shipping weight 42 lbs. Boxed.



Special Rear Bumpers

"BUICK SMALL SIX"

No. 34. Black with Nickel Trimmings.....\$12.50

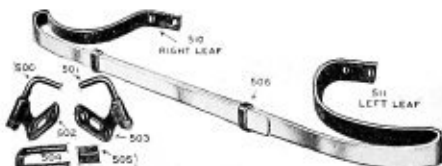
No. 35. Nickel with Black Trimmings.....14.00

"CADILLAC"

No. 61. Black with Nickel Trimmings.....\$15.00

No. 62. Nickel with Black Trimmings.....16.50

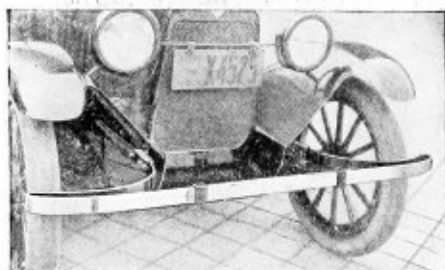
LYON "REGULAR" BUMPER PARTS



Price List of Parts

No. 510-511.	Black Steel Leaves, med. size.	Ea.	\$5.00
No. 510-511.	Nickel Steel Leaves, med. size.	Ea.	6.00
No. 510-511.	Black Steel Leaves, large size.	Ea.	6.00
No. 510-511.	Nickel Steel Leaves, large size.	Ea.	7.00
No. 502	Brackets, Left, No. 503, Right	Ea.	.45
No. 500.	U Bolts, Left, No. 501, Right	Ea.	.19
No. 504.	U Bolts	Ea.	.19
No. 505.	Take-Up-Plugs	Ea.	.15
No. 506.	Front Clips, large or med. size, Blck	Ea.	.75
No. 506.	Front Clips, large or med. size, Nick.	Ea.	1.25

LYON "SPECIAL" FRONT BUMPERS



In some cases it is impossible to attach our standard make LYON BUMPERS, we have designed SPECIAL BUMPERS and BRACKETS, which are attached without drilling or alteration to the car.

The BRACKETS are rigidly constructed, and are made of the highest grade material. They are extremely long but are attached under the car out of view, and fully balance the Bumper and eliminate vibration.

"CHEVROLET 490"

No. 17. Black with Nickel Trimmings	\$10.50
No. 18. Nickel with Black Trimmings	12.00

"FRANKLIN"

No. 21. Black with Nickel Trimmings	\$12.50
No. 22. Nickel with Black Trimmings	14.00

"PACKARD"

No. 81. Black with Nickel Trimmings	\$14.50
No. 82. Nickel with Black Trimmings	16.50

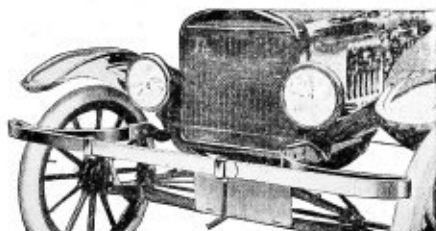
"SAXON SIX"

No. 25. Black with Nickel Trimmings	\$12.50
No. 26. Nickel with Black Trimmings	14.00

"BRISCOE"

No. 27. Black with Nickel Trimmings	\$11.00
No. 28. Nickel with Black Trimmings	13.00

LYON BUMPERS—FOR FORD CARS



Lyon Bumpers for Ford cars are made of exactly the same quality material as Lyon Bumpers built for the highest priced car. Nearly 300,000 Lyon Bumpers have been sold for Ford cars which proves their value.

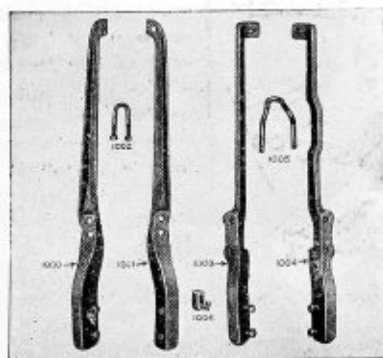
REAR

No. 57. Black with Nickel or Brass Trimmings	\$12.00
No. 58. Nickel with Black Trimmings	14.00
Shipping weight 51 lbs.	

FRONT

No. 7. Black with Nickel or Brass Trimmings	\$10.00
No. 8. Nickel with Black Trimmings	12.00
Shipping weight 40 lbs.	

THE LYON BUMPER "FORD" PARTS



No. 1000. Right Bracket	Each. \$1.68
No. 1001. Left Bracket	Each. 1.68
No. 1002. U Bolt	Each. .17
No. 1003. Right Bracket	Each. 1.68
No. 1004. Left Bracket	Each. 1.68
No. 1005. U Bolt	Each. .17
No. 1006. Front Clips, Black Finish	Each. .50
No. 1006. Front Clips, Nick. or Brass Fin. Ea.	.85
Steel Leaves, Black Finish	3.85
Steel Leaves, Nickel Finish	5.00

The Brackets Nos. 1000-1001 were designed for the 1917 Car, but also fit all of the older models.

The Brackets Nos. 1003-1004 can be used on a 1917 Car by forcing up the mud-guard; they, however, were designed for the 1916 Cars and earlier models.

Gemco Bumpers

GEMCO UNIVERSAL ADJUSTABLE SPRING BUMPER—Front



This Bumper, made completely of high carbon, oil-tempered spring steel, is universally adjustable to all the latest cars. It has looped ends to assist in absorbing the force of a shock occasioned by a collision. These springs also overlap one another for adjustment.

In front of the overlapping members and to firmly secure them and permit adjustment to various widths of car frames, is a strong, steel spring plate, bolted through the adjusting holes in the overlapping spring members. This steel spring plate gives additional strength and a finished appearance.

All cars with a standard front or rear frame construction, with the extended frame chassis, can be fitted with this Bumper in the front, and the Universal Rear Spring Bumper in the rear.

For cars equipped with Gabriel Snubbers or Hartford Shock Absorbers, we have a Special Spring Bar Bumper.

This Special Bumper is equipped with a special clamping arrangement so as not to interfere with the Gabriel Snubbers or the Hartford Shock Absorbers.

The following cars can be fitted:

Allen	Detroit El.	Marmion	Premier
Auburn	Dixie Flier	Maxwell	Pierce-Ar.
Apperson	Dodge	McFarlan	Pilot
Beggs	Dart	Merced	Reo
Biddle	Elear	Milburn El.	Roamer
Buick	Elgin	Mitchell	Scripps-B.
Case	Essex	Moline Kn.	Standard
Cadillac	F.I.A.T.	Moon	Stanley
Chalmers	Grant	Nash	Stearns Kn.
Chandler	Haynes	National	Stephen
Chevrolet	Hudson	Oakland	Studebaker
Cole S.	Hupmobile	Oldsmobile	Stutz
Columbia	Jordan	Olympian	Templar
Com'nw'lth	King	Overland	Vellie
Crow Elk.	Kissel Kar	Paige	Westcott
Cun'gham	Lexington	Pan Amer.	Willys-Kn.
Daniels	Liberty	Paterson	Willys 6
Davis	Locomobile	Peerless	Winton

Finish: Two main bars black enamel. Reinforcing bar, nickel or black. Each Bumper individually packed.

Symbol	Finish	Wt.	Price
C603N	Nkl.	40 lbs.	\$14.00
C603B	Blk.	40 lbs.	12.50

GEMCO SPECIAL SPRING BUMPER

For Cars with Gabriel Snubbers or Hartford Shock Absorbers.

Symbol	Finish	Wt.	Price
C629N	Nkl.	40 lbs.	\$14.00
C629B	Blk.	40 lbs.	12.50

GEMCO UNIVERSAL REAR SPRING BUMPER



On account of the frames of some cars having a much wider frame center in the rear than in the front, this GEMCO REAR SPRING BUMPER Universally Adjustable, is necessary. It is made of the same material as the Gemco Front Spring Bumper, Universally Adjustable, and is intended only for cars with the rear frame extension, especially those mentioned below.

Symbol	Finish	Wt.	Price
C630N	Nkl.	35 lbs.	\$14.00
C630B	Blk.	35 lbs.	12.50

GEMCO REAR FRAME SPRING BUMPER



Cars equipped with cantilever springs can be easily equipped with the Gemco Rear Frame Spring Bumper, made of the same kind of material as all of the Gemco Spring Bumpers.

This Bumper can also be attached to cars where the frame, like on the Buick, extends back of the car body.

The following cars can be fitted:

Buick	King	Peerless	Stearns-Kn.
Elgin	Kissel	Reo Big 6 and Roadster	Westcott
Symbol	Finish	Wt.	Price
C617N	Nkl.	40 lbs.	\$14.00
C617B	Blk.	40 lbs.	12.50

Gemco Bumpers

GEMCO UNIVERSAL SPRING CHANNEL BUMPER—(Front and Rear)

Will Fit Cars With Gabriel Snubbers and Hartford Shock Absorbers. It Has the Famous Three-Way Fastening.



The brackets of this Bumper are made of high grade oil-tempered flat steel springs, and like the GEMCO Spring Bumper, are reversibly universal in their attachment.

Forged hooks hold the Bumper to the car frame. The brackets securely support the 2-inch Channel Bar, a strong yoke being utilized to fasten the Channel Bar to them. Loosening is impossible.

This Bumper is especially suitable for cars equipped with Gabriel Snubbers and Hartford Shock Absorbers.

Finish—Bar: Nickel or black enamel. All other parts black.

Each Bumper is individually boxed in a strong carton; five boxes to a standard crate.

The following cars may be fitted in front. Those marked with an asterisk (*) may be fitted in the rear. For cars with extra wide rear frames the springs may be reversed.

Allen	Dixie Fl.	*Moon	*Premier
Apperson	Dodge	McFarlan	*Reo
*Auburn	Dort	Milburn	Pierce-Ar.
*Beggs	*Elcar	Mitchell	*Roamer
*Biddle	Elgin	*Mol. Kn. 40L	Scripps-B.
Buick	*Essex	*Mol. Kn. 50G	Stanley
Cadillac	*F.I.A.T.	*Mercer	*Standard
Case	Grant	*Nash	Stearns Kn.
*Chalmers	*Haynes	*National	*Stephen
*Chandler	*Hudson	*Oakland	Studebak. 6
*Chev. FB	*Hupmob.	Oldsmob.	*Stutz
*Cole	King	Olympian	*Templar
*Com'w'lth	Kissel	Overland	Vellie
*Crow Elk.	*Jordan	Paige	Westcott
*Cun'gham	*Lexington	*Pan. Am.	Willis-Kn.
*Columbia	*Liberty	*Paterson	Willys 6
*Daniels	Locomobile	*Peerless	Winton
*Davis	Marmion	*Packard	
*Detroit El.	*Maxwell	Pilot	

For Cars Not Equipped With Gabriel Snubbers or Hartford Shock Absorbers.

Symbol	Bar and Fin.	Wt.	Price
C601N	2" Ch. Nkl.	17 lbs.	\$11.00
C601B	2" Ch. Blk.	17 lbs.	10.00

GEMCO SPECIAL SPRING CHANNEL BUMPER

For Cars Equipped With Gabriel Snubbers or Hartford Shock Absorbers.

Symbol	Bar and Fin.	Wt.	Price
C667N	2" Ch. Nkl.	17 lbs.	\$11.00
C667B	2" Ch. Blk.	17 lbs.	10.00

REAR CLAMP-ON SPRING CHANNEL BUMPER



Most cars with $\frac{3}{4}$ elliptic springs or with the standard rear frame extension, and when carrying no more than two tires, can be fitted with this Bumper. They are the following:

Symbol	Bar and Fin.	Wt.	Price
C626N	2" Ch. Nkl.	20 lbs.	\$11.50
C626B	2" Ch. Blk.	20 lbs.	10.50

EXTRA LONG SPRING CHANNEL BUMPER

The following cars may be fitted:

Symbol	Bar and Fin.	Wt.	Price
C637N	2" Ch. Nkl.	18 lbs.	\$12.00
C637B	2" Ch. Blk.	18 lbs.	11.00

GEMCO REAR FRAME SPRING CHANNEL BUMPER

This Rear Frame Bumper is made of two heavy steel springs, the standard lengths of which are 26 inches over all. The forward ends of these steel springs are secured with two strong yokes, to a 2-inch steel channel Bar.



The following cars may be fitted with Rear Frame Spring Channel Bumper:

Symbol	Finish	Wt.	Price
C627N	2" Ch. Nkl.	20 lbs.	\$10.50
C627B	2" Ch. Blk.	20 lbs.	9.50

The following cars may be fitted with Offset Rear Frame Spring Channel Bumper:

Symbol	Finish	Wt.	Price
C631N	2" Ch. Nkl.	20 lbs.	\$11.00
C631B	2" Ch. Blk.	20 lbs.	10.00

Gemco Bumpers

GEMCO FENDER-PAN BUMPER



The brackets are concave to allow for frame rivets. Gabriel Snubbers, Hartford Shock Absorbers, etc., do not interfere when using the Special Fender-Pan Bumper listed below with symbol numbers from C827N to C829B.

Strong hooks clamp to the lower flange of the car

frame. An oblong hole at the rear allows for horizontal adjustment. The cars in the list below, marked with a dagger, (†), can be fitted with this Bumper where Shock Absorbers or Snubbers are not used.

SPECIAL FENDER-PAN BUMPER



This Special Fender-Pan Bumper is designed for cars equipped with Gabriel Snubbers or Hartford Shock Absorbers. It has flat hooks to allow for splash pans which are very close to the lower frame flange. It is provided with an adjusting screw at the bottom to insure a stronger clamping effect.

All of the following cars can be fitted with this Bumper whether equipped with Gabriel Snubbers or Hartford Shock Absorbers or not. The asterisk (*) indicates when suitable for front and rear.

Allen	†Detroit	†*Maxwell	†Pierce-Ar.
*Auburn	†Dixie Fl.	†*Mercer	†Reo
†Apperson	†Dodge	†McFarlan	*Roamer
†Begg	†Dort	†Milburn El.	†Scripps B.
Biddle	†Elcar	†Mitchell	†Standard
Buick	†Elgin	†Moline Kn.	†Stanley
†Cadillac	†Essex	†Moon	†Stearns Kn.
†Case	†*Grant	†Nash	†Stephens
†Chevrolet	†Haynes	†National	†Studebaker
†Chalmers	†Hudson	†Oakland	†Stutz
†Chandler	†Hupmob.	†Oldsmobl.	†Templar
*Cole	†Jordan	†Olympian	†Velle
†Columbia	†King	†Overland	†Westcott
†Com'n'w'th	†Kissel	†Paige	†Willis Kn.
†Crow Elk.	†Lexington	†Pan-Am.	†Willys 6
†Cun'gham	†Liberty	†Paterson	†Winton
†Davis	†Locomob.	†Pilot	
†Daniels	Marmen	†Premier	

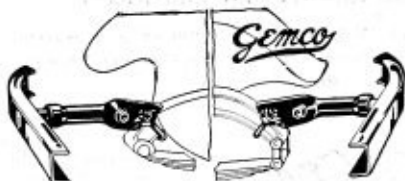
Finish—Bar: Nickel or black.

All other parts black.

Each Bumper individually boxed.

Special Symbol	Standard Symbol	Kind of Bar.	Wt.	Price
C827N	C608N	2" Ch. Nkl.	17 lbs.	\$10.50
C827B	C608B	2" Ch. Blk.	17 lbs.	9.50
C828N	C605N	1 3/4" Dia. Nkl.	17 lbs.	14.00
C828B	C605B	1 3/4" Dia. Blk.	17 lbs.	12.00
C829N	C606N	1 1/2" Dia. Nkl.	15 lbs.	12.50
C829B	C606B	1 1/2" Dia. Blk.	15 lbs.	11.00

GEMCO WILFIFT BUMPER (Front and Rear)



Bumpers will fit the front and the rear of many cars as may be noted by the list of cars given below. Many cars with semi-elliptic springs and regular rear frame extension may be fitted at the rear with this Bumper.

Wilfift Bumpers with 7-inch sleeve can be fitted to the following cars in the front without drilling splash pan:

Auburn	Hudson	Maxwell	Stephen
Chalmers	Hupmobile	Milburn	Studebaker
Crow El.	Jordan	Paige	Stutz
Cole	Kissel	Peerless	Templar
Detroit El.	McFarlan	Premier	Velle
Elcar	Mercer	Reo	Winton
Grant	Marmen	Roamer	

Wilfift Bumpers with 7-inch sleeve can be fitted to following cars in the rear:

Biddle	Haynes	Nash	Paterson
Essex	Liberty	Reo	Stutz
Hudson	Maxwell	Roamer	Templar

By drilling a hole in the splash pan many other cars besides those mentioned above can be neatly fitted.

Finish—Bar: nickel or black. All other parts black.

Each Bumper individually boxed.

Symbol	Bar and Fin.	Wt.	Price
C716N	2" Ch. Nkl.	17 lbs.	\$10.00
C716B	2" Ch. Blk.	17 lbs.	9.00
C718N	1 3/4" Dia. Nkl.	18 lbs.	13.50
C718B	1 3/4" Dia. Blk.	18 lbs.	11.50
C719N	1 1/2" Dia. Nkl.	16 lbs.	12.00
C719B	1 1/2" Dia. Blk.	16 lbs.	10.50

GEMCO DODGE FRONT BUMPER



This Bumper fits all Dodge Cars on account of a slotted hole for the bolt. No drilling of holes or alterations are necessary. The correct end-thrust principal is incorporated.

Symbol	Bar and Fin.	Wt.	Price
C721N	2" Ch. Nkl.	15 lbs	\$ 9.50
C721B	2" Ch. Blk.	15 lbs	8.50
C723N	1 3/4" Dia. Nkl.	15 lbs	13.00
C723B	1 3/4" Dia. Blk.	15 lbs	11.00
C724N	1 1/2" Dia. Nkl.	13 lbs	11.50
C724B	1 1/2" Dia. Blk.	13 lbs	10.00

Gemco Bumpers

GEMCO UNIVERSAL FRONT BUMPER



Has a toothed clutch to permit of horizontal adjustment of the Bumper Bar. The shock or impact comes directly on the end of the frame.

By drilling a hole in the splash pan many cars, besides those

mentioned below, can be neatly fitted. The cars to which this Bumper may be fitted without drilling the splash pan are as follows:

Chalmers	Hupmobile	Milburn
Cole	Jordan	Reo
Crow Elk.	Kissel	Roamer
Detroit El. 76	Marmion	Paige
Elcar	Maxwell	Peerless
Haynes	McFarlan	Premier
Hudson	Mercer	

Stephen	Studebaker 4
and Light 6	
Templar	
Vellie	
Winton	

FINISH—Bar: Nickel or black. All other parts black. Each Bumper individually boxed.

Symbol	Bar and Fin.	Wt.	Price
C705N	2 3/4" Ch. Nkl.	27 lbs.	\$15.50
C705B	2 3/4" Ch. Blk.	27 lbs.	12.50
C706N	2" Ch. Nkl.	18 lbs.	11.50
C706B	2" Ch. Blk.	18 lbs.	9.50
C707N	1 3/4" Dia. Nkl.	18 lbs.	15.00
C707B	1 3/4" Dia. Blk.	18 lbs.	12.00

GEMCO REAR-FRAME BUMPER



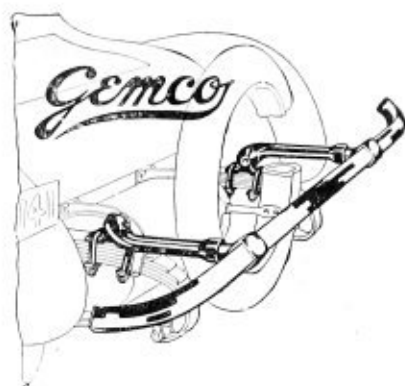
Almost every car with cantilever springs in the rear may be fitted with the Rear-Frame Bumper, including such as Buick, Peerless, Kissel and others. A few cars with semi and three-quarter elliptic springs can also be fitted. The Bumper is made of two heavy castings, light in weight and very strong.

The following cars can be fitted.

Buick, All Models	Peerless
Chevrolet FB	Reo Roadster
Dort	Stearns Kn.
King	Westcott
Kissel	Etc., Etc.
Moline Kn. G50	

Symbol	Bar and Fin.	Wt. Lbs.	Price
C806N	2" Ch. Nkl.	23	\$11.50
C806B	2" Ch. Blk.	23	10.50
C807N	1 3/4" Dia. Nkl.	19	15.00
C807B	1 3/4" Dia. Blk.	19	13.00
C808N	1 1/2" Dia. Nkl.	21	13.50
C808B	1 1/2" Dia. Blk.	21	12.00

GEMCO REAR CLAMP-ON BUMPER



This Bumper is made of a combination of brackets and sleeves to suit varying conditions, especially, cars with 3/4 elliptic or semi-elliptic springs. Extra long and offset sleeves are furnished where tires interfere.

Special Notice. Any combination of the above brackets and sleeves may be had. Specify symbol, kind of bracket and length of sleeve. In the absence of any information except symbols we will furnish No. 1 brackets with 2" x 3" yokes and a 12" sleeve. Extra wide yokes furnished specially ordered.

This Bumper fits the rear of the following cars. The number of the bracket and the length of the sleeve required is indicated after each name of car:

Allen—No. 2, 12"	Essex—No. 1, 7"	Paige, Essex and
Auburn—No. 1, 7"	F.I.A.T.—No. 1, 12"	Larchmont—No.
Beggs—No. 1, 12"	Grant—No. 1, 7"	2, 12"
Biddle—No. 1, 7"	Haynes—No. 1, 12"	Premier—No. 1-2, 12"
Briscoe—No. 1, 12"	Hudson—No. 1, 7"	R. & L'ge—No. 1, 7"
Case—No. 1, 12"	Hupmo.—No. 1, 12"	Reo Tr.—No. 1, 12"
Chalmers—No. 1, 7"	Jordan—No. 1, 12"	Reo 6—No. 1, 7"
Cole—No. 1, 7"	Lex'g't—No. 1, 12"	Roamer—No. 1, 7"
Columb.—No. 1, 15"	Liberty—No. 1, 7"	Stand'd—No. 1, 15"
Com'w'l—No. 1, 15"	Maxwell—No. 1, 7"	Stephen—No. 1, 12"
Crow Elk.—No. 1, 7"	McFarlan—No. 1, 15"	Saxon—No. 3, 15"
Chandler—No. 1, 15"	Mol. Kn. 40L—	Studebaker B6—
Offset	No. 1-2, 12"	No. 2, 12"
Cun'ham—No. 1, 15"	Mitchell—No. 2, 12"	Studebaker L6—
Daniels—No. 1, 15"	Moon—No. 1, 12"	No. 2, 12"
Offset	Nash—No. 1, 7"	Studebaker L4—
Davis—No. 1, 12"	Oakland—No. 1, 12"	No. 1, 12"
Detroit—No. 1, 7"	Oldsmo. 6—No. 1, 12"	Scrapps-B—No. 1, 12"
Dixie Fl.—No. 1, 15"	Oldsmo. 8—No. 1, 15"	Stutz—No. 1, 7"
Dodge—No. 1, 7"	Packard—No. 1, 15"	Templar—No. 1, 7"
Elcar—No. 1, 12"	Patterson—No. 1, 7"	Vellie—No. 1, 12"
Elgin—No. 3, 15"	Pan. Am.—No. 1, 12"	Winton—No. 1, 15"
Offset		



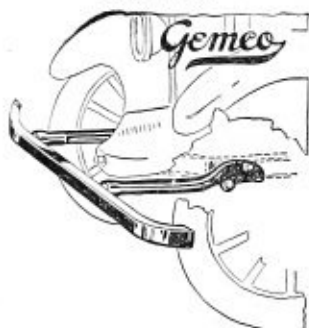
FINISH

Bars: Black enamel or nickel plated. All other parts black enamel.

Symbol	Bar & Fin.	Wt., Lbs.	Price 7" Sleeve	Price 12" Sleeve	Price 15" Sleeve
C701N	2" Chan. Nkl.	18	\$10.00	\$10.50	\$10.76
C701B	2" Chan. Blk.	18	9.00	9.50	9.76
C702N	1 3/4" Dia. Nkl.	18	13.50	14.00	14.26
C702B	1 3/4" Dia. Blk.	19	11.50	12.00	12.26
C703N	1 1/2" Dia. Nkl.	17	12.00	12.50	12.76
C703B	1 1/2" Dia. Blk.	17	10.50	11.00	11.26

Gemco Bumpers

GEMCO OVERLAND "4" FRONT BUMPER



Brackets attach to the car frame with a forged hook on each Bracket, and the lugs on the Bumper Brackets insure a good rest and a solid hold in case of a collision.

Symbol	Bar and Finish	Wt.	Price
C842N	2" Ch. Nkl.	20 lbs.	\$11.50
C842B	2" Ch. Blk.	20 lbs.	10.50
C845N	1 1/2" Dia. Nkl.	20 lbs.	13.50
C845B	1 1/2" Dia. Blk.	20 lbs.	12.00

GEMCO OVERLAND "4" REAR BUMPER

Symbol	Bar and Finish	Wt.	Price
C846N	2" Ch. Nkl.	24 lbs.	\$12.51
C846B	2" Ch. Blk.	24 lbs.	11.51
C849N	1 1/2" Dia. Nkl.	24 lbs.	14.51
C849B	1 1/2" Dia. Blk.	24 lbs.	13.01

CHEVROLET "490" FRONT BUMPER



The bracket butts squarely against the frame to which it is bolted. It also has an arm extending back and is clamped to the side bar by a heavy hook.

Symbol	Symbol	Bar and Fin.	Wt.	Price
1920 Car	1919 Car			
C671N	C760N	2" Ch. Nkl.	22 lbs.	\$11.50
C671B	C760N	2" Ch. Blk.	22 lbs.	10.50
C672N	C762N	1 3/4" Ch. Nkl.	22 lbs.	10.70
C672B	C762B	1 3/4" Ch. Blk.	22 lbs.	10.10
C673N	C761N	1 1/2" Dia. Nkl.	22 lbs.	13.50
C673B	C761B	1 1/2" Dia. Blk.	22 lbs.	12.00

CHEVROLET "490" REAR BUMPER

Symbol	Bar and Finish	Wt.	Price
1919-1920			
C771N	2" Ch. Nkl.	25 lbs.	\$11.51
C771B	2" Ch. Blk.	25 lbs.	10.51
C772N	1 3/4" Ch. Nkl.	25 lbs.	10.71
C772B	1 3/4" Ch. Blk.	25 lbs.	10.11
C773N	1 1/2" Dia. Nkl.	25 lbs.	13.51
C773B	1 1/2" Dia. Blk.	25 lbs.	12.01

GEMCO FRANKLIN FRONT BUMPER



This GEMCO Franklin Front Bumper attaches with two special bolts which replace the ones furnished by the car manufacturer for fastening the lamp bracket. A yoke around the lamp fork secures the bracket firmly.

Symbol	Bar and Finish	Wt.	Price
C787N	2" Ch. Nkl.	19 lbs.	\$11.25
C787B	2" Ch. Blk.	19 lbs.	10.25
C788N	1 3/4" Dia. Nkl.	20 lbs.	14.75
C788B	1 3/4" Dia. Blk.	20 lbs.	12.75
C789N	1 1/2" Dia. Nkl.	18 lbs.	13.25
C789B	1 1/2" Dia. Blk.	18 lbs.	11.75

GEMCO FRANKLIN REAR BUMPER

Symbol	Bar and Finish	Wt.	Price
C791N	2" Ch. Nkl.	21 lbs.	\$11.25
C791B	2" Ch. Blk.	21 lbs.	10.25
C792N	1 3/4" Dia. Nkl.	23 lbs.	14.75
C792B	1 3/4" Dia. Blk.	23 lbs.	12.75
C793N	1 1/2" Dia. Nkl.	20 lbs.	13.25
C793B	1 1/2" Dia. Blk.	20 lbs.	11.75

GEMCO FRONT FRAME TYPE FOR FORDS



The GEMCO Frame Type Bumper for Fords, clamps to the frame, is compact and strong and furnishes ample protection. It does not work loose from the spring action. It is attached easily and quickly; no bolts to be removed, no holes to be drilled and no mechanical changes to be made.

Symbol	Bar and Finish	Wt.	Price
C816N	2" Ch. Nkl.	23 lbs.	\$10.50
C816B	2" Ch. Blk.	23 lbs.	9.50
C817N	1 3/4" Ch. Nkl.	20 lbs.	9.70
C817B	1 3/4" Ch. Blk.	20 lbs.	9.10
C818N	1 1/2" Dia. Nkl.	21 lbs.	12.50
C818B	1 1/2" Dia. Blk.	21 lbs.	11.00

GEMCO REAR BUMPER FOR ALL FORD MODELS

Symbol	Bar and Finish	Wt.	Price
C794N	2" Ch. Nkl.	21 lbs.	\$11.25
C794B	2" Ch. Blk.	21 lbs.	10.25
C795N	1 3/4" Ch. Nkl.	20 lbs.	10.45
C795B	1 3/4" Ch. Blk.	20 lbs.	9.85
C796N	1 1/2" Dia. Nkl.	20 lbs.	13.25
C796B	1 1/2" Dia. Blk.	20 lbs.	11.75

Gemco Bumpers

GEMCO REAR CLAMP-ON SPRING BUMPER

The GEMCO Rear Clamp-On Spring Bumper is intended for cars having $\frac{3}{4}$ elliptic springs or semi-elliptic springs, or any car having a rear frame extension that will permit of the clamping of these brackets to the frame or spring.

Below is a list of most of the cars which this Bumper will fit.



Abbot-Det.	Daniels	Lexington	Paterson
Allen	Davis	Liberty	Pierce-Ar.
Apperson	Detroit El.	Locomobile	Premier
Auburn	Dodge	Malbohm	Rauch & L.
Biddle	Eclair	Marion-Han.	Reo
Briscoe	F.I.A.T.	Maxwell	Roamer
Case	Grant	Moon	Ross S
Chalmers	Hackett	Mercer	Scripps-B.
Chandler	Haynes	Mol. Kn. 40L	Standard
Cole S	Hudson	Nash	Stearns Kn.
Crow Elk.	Hupmobile	Oakland	Stutz
Columbia	Interstate	Oldsmobile	Templar
Com'nw'lth	Jordan	Packard	Vette
Cun'gham	Kline	Pan Amer.	Winton

Finish: Two main bars black enamel. Reinforcing bar nickel or black. Each Bumper individually boxed.

Symbol	Finish	Wt.	Price
C616N	Nkl.	40 lbs.	\$14.00
C616B	Blk.	40 lbs.	12.50

GEMCO SPRING BUMPER FOR FORDS

(Rear)



Finish: Main bar black enamel. Reinforcing strip nickel plated or black enamel.

Each Bumper individually boxed.

WITH REINFORCING BAR

Symbol	Finish	Wt.	Price
C634N	Nkl.	40 lbs.	\$13.00
C634B	Blk.	40 lbs.	11.50

WITHOUT REINFORCING BAR

C639B	Blk.	35 lbs.	10.00
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GEMCO CHEVROLET "490" SPRING BUMPER



Owners of the Chevrolet "490" cars recommend this Spring Bumper. It is one continuous strip of heavy high-carbon and oil-tempered steel spring with looped ends. It is reinforced in the front with a heavy steel

plate securely fastened to the main spring with two strong clamps. This complete unit is substantially fastened to two heavy malleable brackets, which clamp to the front of the car frame in a very secure manner.

Finish—Bar: Nickel or black. All other parts black.

Each Bumper individually Boxed.

WITH REINFORCING BAR

1919 Symbol	1920 Symbol	Finish	Wt.	Price
C610N	C669N	Nkl.	40 lbs.	\$12.00
C610B	C669B	Blk.	40 lbs.	10.50

WITHOUT REINFORCING BAR

C640B	C670B	Blk.	35 lbs.	9.00
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SAXON FRONT SPRING BAR BUMPER

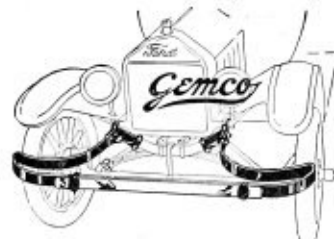
WITH REINFORCING BAR

Symbol	Finish	Wt.	Price
C611N	Nkl.	40 lbs.	\$12.00
C611B	Blk.	40 lbs.	10.50

WITHOUT REINFORCING BAR

C642B	Blk.	40 lbs.	\$9.00
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GEMCO SPRING BUMPER FOR FORDS (Front)



One of the very best Bumpers for a Ford is this GEMCO Spring Bumper, as it is one continuous strip of heavy high-carbon and oil-tempered steel spring with looped ends. It is reinforced in

the front with a heavy steel plate securely fastened to the main spring with two strong clamps. This complete unit is substantially fastened to two heavy malleable brackets which clamp to the front of the car frame in a very secure manner.

Finish—Bar: Nickel or black. All other parts black.

Each Bumper individually boxed.

WITH REINFORCING BAR

Symbol	Finish	Wt.	Price
C609N	Nkl.	40 lbs.	\$12.00
C609B	Blk.	40 lbs.	10.00

WITHOUT REINFORCING BAR

C638B	Blk.	35 lbs.	9.00
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AUTOMOBILE TRUCK

SPRINGS

For replacement on all cars and trucks. Stan-Par Springs are regularly furnished as standard equipment on Buick, Dodge, Oakland, Packard, Hudson, Essex, Overland, Apperson, Auburn, Cadillac,

Chandler, Chevrolet, Nash, Paige, Reo, Stearns, Winton, and White, etc., cars or trucks.

TWENTY-FOUR HOUR SERVICE

Our stock of replacement springs for immediate shipment covers all popular cars and trucks later than and including 1916. Replacement Springs for older models furnished only on special order; guaranteed

shipping time (on special orders) 72 to 96 hours from receipt of order. On orders for more than two Springs for dealer's stock, we recommend direct shipment from factory, as our replacement Spring stock includes hundreds of different styles of Springs and we can give better and quicker service to our customer-friends by shipping only the number of Springs needed for a particular repair job from Pittsburgh stock.

ABBOTT-DETROIT

Stock No.	Model	Position	Price
10	6-44, 4 & 7 Pass. & Sedan.	F.	\$ 9.25
11	6-44, 7 Pass. & Sedan....	R.	15.75
12	6-44, 4 Pass.	R.	13.75

ACME TRUCK

25	2 Ton	F.	27.00
26	2 Ton	R.	67.50
27	3 1/2 and 4 Ton.	F.	40.00
28	3 1/2 Ton	R.	95.50
29	4 Ton	R.	123.50

ALLEN

100	33, 34, 35, 37, 41.	F.	6.00
101	33, 34, 35	L.R.	9.75
102	33, 34, 35	U.R.	3.25
103	38, 40	F.	8.25
104	38, 40	L.R.	13.50
105	38, 40	U.R.	5.50
107	37	R.	15.00
109	41	R.	15.00

AMERICAN

125	A. TC	F.	15.00
126	A. TC	R.	21.50
127	B. TC	F.	15.00
128	B. TC	R.	20.50

ANDERSON

140	30	F.	9.50
141	30, TC	R.	19.00
142	30, Sedan	R.	20.00

APPERSON

158	6-48, 6-45, 8-58, 1 1/2 inch Reamed Eye, M. P.	F.	8.00
158A	6-48, 6-45, 8-58, 3/4 inch Bushed Eye, M. P.	F.	10.00
159	6-48, 6-45, 8-58.	L.R.	12.00
160	6-48, 6-45, 8-58.	U.R.	6.25
163	AA, 7-18	F.	11.25
164	AA, 7-18	L.R.	17.00
165	AA, 7-18	U.R.	7.50
166	8-20	F.	10.75
167	8-20, TC	L.R.	14.25
168	8-20	U.R.	7.00
169	8-20 Roadster.	L.R.	13.50

AUBURN

200	4-36, 6-38	F.	\$ 7.50
201	4-36	L.R.	11.00
202	4-36	U.R.	4.00
203	4-36 U	F.	6.00
204	4-36 U	L.R.	13.50
205	6-40A	F.	9.00
206	6-40A, Right or Left.	R. Cant.	21.00
207	6-39, 6-39B.	F.	6.75
208	6-39, 6-39B.	R.	13.50
209	6-39H, 6-39K.	F.	7.75
210	6-39H, 6-39K.	R.	.....

AUTO-CAR TRUCKS

Stock No.	Model	Position	Price
7690	1 1/2 and 2 Ton	F.	25.00
7691	1 1/2 Ton	R.S.	42.50
7692	1 1/2 Ton	R.C.	29.00
7693	2 Ton	R.S.	55.00
7694	2 Ton	R.C.	34.00

BRISCOE

225	30	1915	F.	5.00
226	30	1915	R.	7.50
227	4-38	1916	F.	5.25
228	4-38	1916	R.	12.00
229	4-24	1917-20	F-Full Ell.	8.75
230	4-24	1917-20	R-Full Ell.	12.00

BUICK

250	B-53	1914	F.	10.50
251	B-55	1914	L.R.	20.50
252	B-55	1914	U.P.	10.25
253	B-36-37	1914	F.	8.75
254	B-36	1914	L.R.	9.25
255	B-37	1914	U.R.	4.75
256	B-37	1914	L.R.	10.25
257	B-37	1914	U.P.	6.00
258	B-24-25, C-24-25.	1914-15	F.	6.50
259	B-24	1914	L.R.	7.25
260	B-24	1914	U.R.	4.90
261	R-25	1914	I.R.	8.75
262	C-36-37	1915	F.	8.75
263	C-37	1915	L.R.	10.75
264	C-37	1915	U.R.	5.75
265	C-36	1915	L.R.	9.50
266	C-36	1915	U.R.	5.00
267	C-24	1915	L.R.	8.50
268	C-24	1915	U.R.	4.50
269	C-25	1915	L.R.	8.50
270	B-25	1915	U.R.	4.50
271	B-25	1915	F.	15.00
272	C-54, D-54	1915-16	R. Cant.	22.00
273	C-54, D-54	1915-16	F.	10.75
274	C-55, D-55	1915-16	R. Cant.	25.25
275	C-55, D-56	1915-16	F.	9.50
276	D-44	1917	R. Cant.	17.50
277	D-44	1917-18	F.	8.50
278	D-45, 46, 47.	1917	R. Cant.	17.50
279	D-45, R-45	1917-18	F.	8.50
280	D-47	1917-18	R. Cant.	17.50
281	D-34, 35, E-34, 35.	1917-18	R. Cant.	17.75
282	D-34	1917-18	F.	5.75
283	D-35	1917	F.	7.50
284	D-49, E-49, 50, H-49, 50.	1917-18-19	R.	11.00
285	D-49, E-49	1917-18	R. Cant.	24.00
286	E-34	1918	R.	9.00
287	E-35	1918	R.	11.75
288	H-44, 45, 46, 47, E-44, 45.	1918-19	F.	10.00
289	H-44, 46	1919	R. Cant.	29.00
290	H-45	1919	R. Cant.	21.50
291	H-47	1919	R. Cant.	21.50
292	H-49, 50	1919	R. Cant.	25.75
293	E-4	1919	F.	5.75
294	E-4	1919	R.	12.00

45

Stock No.	Model	Position	Price	Stock No.	Model	Position	Price
296	D-4	F.	7.50	5111	5 Ton, Mod. 120	R.	136.50
297	D-4	R. } Upper		5112	A, B, AA, BB, F	R.	16.50
298	D-4	R. } Lower		5113	B, A, BA, BB, F	R.	29.25
299	K-44, 45, 46, 47	F.	10.50	5114	H	F.	29.25
300	K-49, 50	F.	25.50	5115	H	R.	28.25
301	K-49	R. Cant.	20.50				
302	K-47, 50	F.	11.00				
291	K-45	R. Cant.	21.50				
290	K-44	R. Cant.	21.50				
			20.00				
	CADILLAC						
7508	51, 53	F.	20.00				
7509	51, 5P. Salon, Limo 53,	R.S.	25.00				
7510	Salon	R.S.	16.25				
7511	51, 5P. TC. Salon, Limo	R.S.	20.00				
7512	53, 5P. Salon	R.C.	12.00				
7513	51, Roadster, Coupe 53,	R.S.	28.00				
7514	Roadster, Victoria	R.C.	17.50				
7515	51, Roadster, Coupe 53,	F.	20.00				
7516	Roadster, Victoria	R.S.	24.00				
7517	51, 53, 7P. Open. Limo	R.S.	21.00				
7518	Berline	R.C.	13.00				
7519	51, 53, 7P. Open Limo	R.S.	26.25				
7520	Berline	R.C.	13.00				
7521	55, 57	R.C.	14.00				
	55, 57, Phae, 55 Coupe,						
	57, Roadster, Victoria, 1917-18-19						
	55, 57, Roadster, 55 Club,						
	55, 57, Victoria						
	55, 57, Roadster, 55 Club,						
	55, 57, Victoria						
	55, 57, T.C. Limo, 57 Town						
	Car, 55, Convertible						
	55, 57, T.C. Limo, 57 Town						
	Car, 55, Convertible						
	55, 57, Phae, 55 Coupe,						
	57, Roadster, Victoria, 1917-18-19						
	CHALMERS						
501	35-A	F.	9.25				
502	35-C	R.	15.00				
503	35-B, 35-C	F.	8.75				
504	35-A, 35-B, Roadster, Cab.	R.	13.25				
505	35-A, 35-B, TC	R.	16.00				
	CHANDLER						
550	14, 15, 16	F.	9.00				
551	14, 15, 16 Roadster	L.R.	11.50				
552	14, 15, 16	U.R.	4.75				
553	14, 15, 16 TC	L.R.	12.00				
554	17, 18 Dia. Pt.	F.	10.50				
554A	17, 18, Roll Pt.	F.	10.25				
555	17, 18, 4P. Dia. Pt.	R.	12.75				
555A	17, TC, Roll Pt.	R.	15.00				
556	17, 18, TC, Dia. Pt.	R.	15.50				
556A	17 Roadster, Roll Pt.	R.	11.50				
557	17, 18 Sedan, Limo	R.	16.00				
558	17, 18, Coupe, Dispatch	R.	12.25				
	CHEVROLET						
600	H2, H2½, H4	F.	6.00				
601	H2, H2½, H3	L.R.	8.00				
602	H2, H2½, H3	U.R.	5.00				
603	H4	L.R.	9.00				
604	H4	U.R.	5.50				
605	4-90 Single Type	F.	7.50				
606	4-90 T.C.	R.	9.50				
607	4-90 Roadster	R.	8.75				
608	4-90 Sedan	R.	10.75				
609	F2, Roadster	R.	10.50				
610	F2, P5, FA, Sedan	R.	12.50				
611	FA2, PA5, FB2, FD5, FB	F.	8.25				
612	Sedan	R.	12.75				
614	FB5, TC, FA, FB Sedan	R.	10.50				
615	FA, FB Roadster	F.	7.50				
616	D4, D5	R.	23.25				
617	D4, D5	F.	6.00				
618	4-90	R.	8.25				
619	4-90 T. C.	R.	7.00				
620	4-90 Roadster	R.	9.00				
621	4-90 Sedan	R.					
	CHEVROLET DELIVERY						
606	Light Del.	F.	7.50				
609	Light Del.	R.	10.75				
643	1 Ton	F.	11.25				
644	1 Ton	R.	30.00				
	CLYDE TRUCK						
5100	1 Ton, Mod. 30 and 32	F.	19.25				
5101	1 Ton, Mod. 30 and 32	R.	44.25				
5102	1 Ton, Mod. 32 (Rad. Rod	R.	40.00				
	Type)	F.	20.75				
5103	1½ Ton, Mod. 45	R.	55.50				
5104	1½ Ton, Mod. 45	R.	49.00				
5105	1½ Ton, Mod. 42	F.	29.50				
5106	2 Ton, Mod. 60	R.	57.50				
5107	2 Ton, Mod. 60	F.	35.50				
5108	3½ Ton, Mod. 90	R.	87.50				
5109	3½ Ton, Mod. 90	F.	40.00				
5110	5 Ton, Mod. 98 & 120	F.					
	COLE						
	8-50	1915	F.	9.00			
	8-50	1915	L.R.	15.00			
	8-50	1915	U.R.	9.25			
	8-60, 61, 63, 8 Plate	1916-17	F.	11.00			
	8-60, 61, 63, 9 Plate	1916-17	F.	11.50			
	8-60, 9 Plate	1916-17	R.	17.00			
	8-60, 10 Plate	1916-17	R.	19.50			
	8-61, 4-P. Roadster	1916-17	R.	14.50			
	8-63, 4-P. Coupe	1916-17	R.	15.25			
	8-70	1918-19	F.	11.75			
	8-70	1918-19	R.				
	COLUMBIA						
	All Types	1918-19	F.	9.00			
	All Types	1918-19	R. Cant.	20.50			
	CROW-ELKHART						
	4-Cyl., All Models	1918-19-20	F.	7.50			
	6-Cyl., All Models	1918-19-20	F.	8.00			
	4 & 6-Cyl., All Models	1918-19-20	R.	13.25			
	25, 30, 35, 35C	1916-17	F.	6.50			
	25, 30, 35, 35C	1916-17	L.R.	7.50			
	25, 30, 35, 35C	1916-17	U.R.	6.00			
	Sedan	1920	R.	13.25			
	DANIELS						
	All Types	1917	F.	16.00			
	7-Pass.	1917	R.	26.75			
	4-Pass.	1917	R.	24.25			
	Roadster	1917	R.	22.50			
	Limo	1917	R.	28.75			
	All Types	1918-19	F.	17.00			
	7-Pass.	1918-19	R.	27.25			
	4-Pass. and Roadster	1918-19	R.	30.25			
	D-19, Limo	1919-20	R.	22.75			
	D-19, Roadster	1919-20	R.	39.00			
	D-19, Roadster	1919-20	R.	31.25			
	DEFENDABLE TRUCK						
	1½ Ton	1919	F.	25.00			
	1½ Ton	1919	R.	47.00			
	DIXIE FLYER						
	1918-19		F.	6.75			
	1918-19, 2 inch.		L.R.	12.50			
	1918-19, 2 inch.		U.R.	6.00			
	DODGE						
	All Types	1915-20	F.	7.00			
	T. C. and Sedan	1915-20	L.R.	11.25			
	Roadster	1915-20	R.	9.60			
	T. C., Roadster, Coupe	1915-20	U.R.	4.90			
	Sedan	1915-20	U.R.	6.00			
	DODGE COMMERCIAL						
	Commercial	1915-20	F.	9.60			
	Commercial	1915-20	L.R.	15.25			
	Commercial	1915-20	U.R.	6.00			
	DORT						
	All	1916	F.	8.75			
	All	1916	R. Cant.	13.50			
	5	1916	F.	8.85			
	11, 11T, 11S, 8C	1918	F.	9.75			
	9	1917	R. Cant.	14.50			
	11, 11T, 11S, 8C	1918	R. Cant.	17.00			
	ELGIN						
	6-Cyl.	1917-18-19	F.	6.50			
	6-Cyl, 5-Pass.	1917-18-19	R.	14.75			
	6-Cyl., Sedan	1917-18-19	R.	16.25			
	ELCAR						
	Elcar	1917	F.	6.25			
	Elcar	1917	R.	11.25			
	Elcar	1918-19	F.	8.25			
	Elcar	1918-19	R.	11.00			
	EMPIRE						
	4-40, 6-60	1916	F.	7.50			
	70 TC, Sedan	1917	F.	8.75			
	50, 70A	1917-18	F.	8.00			
	50 TC	1917-18	R.	15.50			
	70A	1918	R.	15.75			
	ESSEX						
	All	1919-20	F.	11.00			
	Roadster	1919-20	R.	20.00			
	TC, Phae, Sedan	1919-20	R.	21.00			
	FEDERAL TRUCK						
	1 & 1½ Ton, Mod. S & M.		F.	17.00			
	1 Ton, Mod. S.		R.	33.00			
	1½ Ton, Mod. M.		R.				
	1½ & 2 Ton, Mod. T & U.		F.	24.00			
	1½ Ton, Mod. T.		R.	48.00			
	2 Ton, Mod. U.		R.				

PITTSBURGH AUTO EQUIPMENT CO.

STAN-PAR SPRINGS

Stock No.	Model	Position	Price	Stock No.	Model	Position	Price		
1081	3½ & 5 Ton, Mod. W & X.....	F.	36.00	1787	6-40 Roadster.....	1916	U.R.	6.50	
1082	3½ Ton, Mod. W.....	R.	87.50	1788	6-40, 7P and Phae.....	1916	L.R.	17.50	
1083	5 Ton, Mod. X.....	R.	.....	1789	6-40, 7P and Phae.....	1916	U.R.	6.75	
FOUR-WHEEL DRIVE TRUCK									
1225	3 Ton.....	F.	37.50	1794	H Super Six.....	1917	R.F.	12.50	
1226	3 Ton.....	R.S.	38.50	1795	H Super Six.....	1917	L.F.	12.50	
1227	3 Ton.....	R.C.	44.50	1796	H TC & Phae, Super Six.....	1917	R.	25.75	
FORD									
1200	"T".....	1914-20	F. } Prices on	1797	H 4P, Super Six.....	1917	R.	16.00	
1201	"T" (56 inch).....	1914-20	R. } App.	1798	M.....	1918	R.F.	13.25	
1202	"T" (9 Plate).....	F.	7.00	1799	M.....	1918	L.F.	13.25	
1203	"T" (10 Plate).....	F.	7.50	1800	M 7P and Phae.....	1918	R.	18.50	
1204	"T" (56 inch, 10 Plate).....	R.	17.50	1801	M 4P.....	1918	R.	17.50	
1205	"T" (60 inch).....	R.	18.50	1802	M Runabout.....	1918	R.	14.50	
1210	1 Ton.....	R.	14.50	1803	H, M, Sedan.....	1917-18	R.	17.75	
FULTON									
1275	1 Ton.....	1917-18	F.	14.00	1804	H, M, Roadster, Cab.....	1917-18	R.	13.75
1276	1 Ton.....	1917-18	R.	25.25	1805	H, M, Limo., Tour-Sedan.....	1917-18	R.	18.00
1277	F-3, F-3A.....	1919	F.	14.75	1806	O. (First 17,000 Cars, 7 Pl.).....	1919	F.	10.75
1278	F-3, F-3A.....	1919	R.	47.50	1807	O. TC.....	1919	R.	17.75
GARFORD TRUCK									
1235	1 Ton, 75B, 75C.....	F.	21.00	1808	O. Roadster.....	1919	R.	18.25	
1236	1 Ton, 75B, 75C.....	R.	37.50	1809	O. (After 17,000, 8 Plate).....	1919	F.	11.50	
1237	1½ Ton, 66, 66B.....	F.	22.00	HUPMOBILE					
1238	1½ Ton, 66.....	R.	39.00	1854	K. N.....	1915-16-17	F.	7.00	
1239	1½ Ton, 66B.....	R.	46.00	1855	K. N, 5P.....	1915-16-17	R.	11.75	
1237	2 Ton, 70.....	F.	22.00	1856	K. N, Roadster.....	1915-16-17	R.	10.00	
1240	2 Ton, 70.....	R.	54.00	1857	K. N, 7P.....	1916-17	R.	17.50	
1241	2 Ton, 70B.....	F.	24.50	1858	R. (5 Plate).....	1918-19	F.	5.75	
1242	2 Ton, 70B.....	R.	52.50	1859	R. R-3, TC.....	1918-19-20	R.	10.75	
1243	3 & 3½ Ton, 67, 77, 77B.....	F.	45.00	1860	R. R-3 (6 Plate).....	1919-20	F.	6.50	
1244	3 Ton, 67.....	R.	74.00	HURLBURT TRUCK					
1245	3 Ton, 67.....	Helper	35.00	1875	1½ Ton.....	F.	17.25		
1246	3½ Ton, 77, 77B.....	R.	94.00	1876	1½ Ton.....	R.	53.00		
1247	5 & 6 Ton, 68, 69, 89.....	F.	48.00	1877	2 Ton.....	F.	26.50		
1248	3½ Ton, 77D.....	F.	34.00	1878	2 Ton.....	R.	86.50		
GRAMM-BERNSTEIN TRUCK									
7671	1 Ton.....	1918	F.	23.00	1879	3½ Ton.....	F.	30.00	
7672	1 Ton.....	1918	R.	34.00	1880	3½ Ton.....	R.	111.50	
7673	1½ Ton (10 Plate).....	1918	F.	23.00	1881	5 Ton.....	F.	39.50	
7674	1½ Ton (9 Plate).....	1918	F.	23.00	1882	5 Ton.....	R.	132.00	
7675	1½ Ton (11 Plate).....	1918	R.	49.00	INTERNATIONAL TRUCK				
7676	1½ Ton (9 Plate).....	1918	R.	40.00	1950	H. ¾ Ton.....	F.	17.00	
7677	2 Ton.....	1918	F.	28.50	1951	H. ¾ Ton.....	R.	27.50	
7678	2 Ton.....	1918	R.	63.50	1952	F. 1 Ton & K, 1½ Ton.....	F.	20.50	
7679	2½ Ton.....	1918	F.	30.50	1953	F. 1 Ton.....	R.	31.50	
7680	2½ Ton.....	1918	R.	72.50	1955	K, 1½ Ton.....	R.	65.50	
7681	3½ Ton W. D., (11 Plate).....	1918	F.	44.50	1956	G, 2 Ton.....	R.	21.50	
7682	3½ Ton W. D., (12 Plate).....	1918	R.	104.50	1957	G, 2 Ton.....	R.	80.00	
7683	5 Ton (1st Models).....	1918	F.	52.00	JACKSON				
7684	5 Ton (2nd Models).....	1918-19	F.	56.50	1960	TC, 120 inch, W. B.....	1919	F.	16.00
7685	5 Ton (15 Plate).....	1918	R.	166.50	1961	TC, 120 inch, W. B.....	1919	R.	25.50
7686	5 Ton (12 Plate).....	1918	R.	156.00	JORDAN				
7687	2 Ton, Mod. 20.....	1919-20	F.	26.50	1965	17-18.....	1917-18-19	F.	9.00
7688	2 Ton, Mod. 20.....	1919-20	R.	55.00	1966	17, Limo.....	1917-18-19	R.	31.50
7689	3½ Ton (10 Plate).....	1919-20	F.	41.50	1967	17, Town Car.....	1917-18-19	R.	32.00
7690	3½ Ton (15 Plate).....	1919-20	R.	133.00	1968	17-18, 4P Sport.....	1917-18-19	R.	23.50
7691	Mod. 25.....	1919-20	F.	36.50	1969	M.....	1920	F.	12.00
7692	Mod. 25.....	1919-20	R.	79.00	1970	M.....	1920	R.	21.50
GRANT									
1475	T. V. K., 1½ inch.....	1916-17	F.	7.50	KELLY TRUCK				
1476	T. V. K., 1½ inch.....	1916-17	R. Cant.	11.75	2000	K-30, 1 Ton, CH. DR.....			
1477	G. 1½ inch.....	1918-19	F.	7.00		K-32, 1 Ton, WM. DR.....			
1478	G. T. C. (8 Plate).....	1918	R. Cant.	12.50	2001	K-30, 1 Ton, CH. DR.....	F.	24.50	
1479	G. T. C. (9 Plate).....	1918-19	R. Cant.	14.00		K-31, 1½ Ton.....	R.	40.00	
1480	H. TC, 2 inch.....	1920	F.	8.25	2002	K-32, 1½ Ton, WM. DR.....	F.	26.00	
1491	H. TC.....	1920	R.	13.25	2003	K-32, 1½ Ton, WM. DR.....	R.	46.00	
1492	H. Roadster and Coupe.....	1920	R.	12.00	2004	K-35, 2 Ton, K-36, 2½ Ton.....	R.	29.00	
1493	H. Sedan.....	1920	R.	14.25	2005	K-35, 2 Ton.....	R. R.	43.50	
HAYNES									
1684	32, 33, 33R.....	1915	F.	9.00	2006	K-35, 2 Ton.....	L.R.	51.00	
1688	33, 7P.....	1915	R.	17.00	2007	K-36, 2½ Ton.....	R.	57.00	
1689	34, 5P, 35, 5 and 7P.....	1916	F.	9.00	2008	3, 3½, 4 and 5 Ton.....	F.	51.00	
1690	34, 5P.....	1916	R.	15.00	2009	K-45, 4 Ton; K-40, 3½ Ton.....	L.R.	101.00	
1691	34, 7P.....	1916	R.	16.75	2010	K-45, 4 Ton; K-40, 3½ Ton.....	R. R.	108.50	
1692	36, 37, 37R, 40, 41.....	1917	F.	9.00	2011	K-40, 3½ Ton (150" W. B.).....	L.R.	84.00	
1693	36, 37R, 40, 41.....	1917	R.	12.50	2012	K-40, 3½ Ton (150" W. B.).....	R. R.	93.00	
1694	37, 7P and Limo.....	1917	R.	14.50	2013	K-50, 5 Ton.....	R. R.	123.50	
1695	36, 40, 5P.....	1917	R.	14.75	2014	K-50, 5 Ton.....	L.R.	116.50	
1696	38, 39, 39R, 44.....	1918	F.	12.50	2015	K-60, 6 Ton.....	F.	48.50	
1697	38, 5P.....	1918	R.	18.75	2016	K-60, 6 Ton.....	L.R.	119.50	
1698	39, 44, Roadster.....	1918	R.	16.25	2017	K-60, 6 Ton.....	R. R.	122.00	
1699	39, 44, 7P.....	1918	R.	20.50	KING				
HOLMES									
1750	6-Cyl. TC.....	1918-19	F-Full Ell.	23.75	2025	D, 8-Cyl.....	1915	F.	8.75
1752	6-Cyl. TC.....	1918-19	R-Full Ell.	26.25	2026	D, 8-Cyl.....	1915	R. Cant.	16.25
HUDSON									
1782	6-40.....	1915	F.	11.00	2027	E, EE, (8 Plate).....	1916-17	F.	9.50
1783	6-40 TC.....	1915	L.R.	17.00	2028	E, EE, T. C.....	1916-17	R. Cant.	23.00
1784	6-40 Roadster.....	1915	L.R.	10.75	2029	E, EE, (9 Plate).....	1918-19	F.	10.50
1785	6-40.....	1916	L.F.	12.00	2030	E, EE, Sedan.....	1918-19	R. Cant.	25.00
1785A	6-40.....	1916	R.F.	12.00	KISSEL CAR				
1786	6-40 Roadster.....	1916	L.R.	16.75	2040	6-38, 100 Pl. 6.....	1917	F.	8.50
LEXINGTON									
2201	"O".....	1917	F.	7.25	2041	6-38, 100 Pl. 6.....	1917	R.	13.00
2202	"O".....	1917	R.	13.75	MINUTEMAN SIX, SEDAN				
2203	Minuteman Six, Sedan.....	1918-19	R.	18.75	2204	Minuteman Six.....	1918-19	F.	8.25
2204	Minuteman Six.....	1918-19	R.	18.75	2205	Minuteman Six, 4 & 5 P.....	1918-19	F.	16.25
2205	Minuteman Six.....	1918-19	R.	18.75					

WHOLESALE DISTRIBUTORS STAN-PAR SPRINGS

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LIBERTY					NATIONAL				
Stock No.	Model	Position	Price		Stock No.	Model	Position	Price	
2215	10A, 10B	1916-20	F.	8.25	2750	6 & 12 Cyl. All Models	1916-19	F.	9.00
2216	10A, 10B	1916-20	R.	10.50	2751	6 & 12 Cyl. All Models	1916-19	R. Cant.	.....
LOCOMOBILE					OAKLAND				
2250	6-48	1915-16	F.	16.00	2915	50	1916	F.	12.00
2251	6-48	1915-16	L.R.	25.00	2916	50	1916	L.R.	13.75
2252	6-48	1915-16	L.R.	12.50	2917	50	1916	U.R.	5.75
2253	6-48	1917-18	F.	17.00	2918	32	1916	F.	6.00
2254	6-48	1917-18	L.R.	25.00	2919	32, T. C.	1916	L.R.	8.25
2255	6-48	1917-18	U.R.	13.00	2920	32, Roadster	1916	L.R.	7.25
MAIBOHM					2921	32	1916	U.R.	5.25
2275	5 Pass. (6 Plate)	1919	F.	6.75	2922	32B	1916	F.	6.25
2276	5 Pass. (7 Plate)	1919	F.	7.25	2923	32B, T. C.	1916	L.R.	7.25
2277	5 Pass. (7 Plate)	1919	R.	11.25	2924	32B, Roadster	1916	L.R.	8.50
2278	5 Pass. (8 Plate)	1919	R.	11.50	2925	32B, Roadster	1916	U.R.	3.75
2279	Sedan	1919	R.	12.75	2926	32B, T. C.	1916	U.R.	4.50
MARMON					2927	34	1917	F.	6.75
2300	34	1919	F.	12.50	2928	34, T. C. and Sedan	1917	R.	11.00
2301	34	1919	U.R.	.....	2929	34B	1918-19	F.	6.00
2302	34	1919	L.R.	20.25	2930	34B, 3P. Roadster	1918-19	R.	9.00
MAXWELL					2931	34B, T. C.	1918-19	R.	9.75
2400	25, 40 inch	1914-15	L.R.	7.00	2932	34B, Coupe, Sedan	1918-19	R.	10.75
2401	25	1914-15	U.R.	3.00	OLDSMOBILE				
2402	25, TC and Sedan, 46 inch	1916-17	L.R.	7.50	2950	42, Roadster	1915	F.	6.75
2403	25, Roadster, 46 inch	1916-17	L.R.	7.50	2951	42, Roadster	1915	L.R.	8.50
2405	25	1916-17	U.R.	3.50	2952	42, Roadster	1915	U.R.	4.25
2406	25, 1 1/2 inch	1914-19	F.	5.25	2953	42, 5P.	1915	F.	8.50
2407	25, TC	1918-19	R.	9.25	2954	42, 5P.	1915	L.R.	12.00
2408	1 Ton	1917-18-19	F.	10.25	2955	42, 5P.	1915	U.R.	4.75
2409	1 Ton	1917-18-19	R.	23.25	2956	43	1916	F.	7.50
2410	25, 2 inch	1920	F.	6.25	2957	44	1917	F.	7.50
2411	25	1920	R.	10.00	2958	43, 44, Roadster	1916-17	L.R.	11.50
McFARLAN					2959	43, 44, Roadster	1916-17	U.R.	4.75
2420	6-Cyl.	1918	F.	12.50	2960	43, 44, T. C.	1916-17	L.R.	10.75
2421	6-Cyl. TC	1918	R.	25.50	2961	43, 44, T. C.	1916-17	U.R.	4.80
2422	6-Cyl. Limo.	1918	R.	30.00	2962	45, 45A, except Roadster	1917-18	F.	7.25
MERCER					2963	45, T. C. (1st Series)	1917	L.R.	11.25
2430	22-72	1916	F.	18.50	2964	45, T. C. (2nd Ser.) 45A, TP.	1917	L.R.	11.25
2431	22-70, 22-72, TC & Sport	1915-16	R.	40.00	2965	45, T. C. (1st Series)	1917	U.R.	5.50
2432	22-72, Runabout, Raceab't	1916	R.	28.00	2966	45, T. C. (2nd Series)	1917	F.	7.00
2433	Series 5, T. C.	1919	F.	18.75	2967	45A, Roadster	1918	F.	7.25
2434	Series 5, T. C.	1919	R.	40.75	2968	45A, Roadster	1918	L.R.	10.25
2435	Series 5, Sportabout	1919	R.	36.50	2969	45A, Roadster	1918	U.R.	4.75
2436	Series 5, Raceabout	1919	R.	27.25	2970	45A, Roadster	1918	U.R.	7.00
2437	Series 5, Runabout	1919	R.	35.00	2971	45A, Speedster	1918	U.R.	4.75
METZ					2972	45A, Speedster	1918	L.R.	10.75
2440	Master Six	1919	F.	8.75	2973	45A, Speedster	1918	U.R.	4.75
2441	Master Six	1919	R.	15.50	2974	37, 37A, 5P.	1918	F.	6.50
2442	Master Six, Sedan	1919	R.	16.50	2975	37, Sedan, Roadster	1918	F.	7.25
MONITOR					2976	37, 37A, 5P.	1918-19-20	R.	13.75
2490	5P, T. C.	1917-18	F.	6.75	2977	37, 37A, Sedan	1918-19-20	R.	13.75
2491	5P, T. C.	1917-18	L.R.	8.25	2978	37, 37A, Roadster	1918-19-20	R.	11.25
2492	5P, T. C.	1917-18	U.R.	6.90	2979	45B	1919-20	F.	11.25
MONROE					2980	45B, TP.	1919-20	R.	17.25
2500	M-2, M-3	1915-16-17	F.	4.25	2981	45B, 4P.	1919-20	R.	16.25
2501	M-2, M-3	1915-16-17	L.R.	6.00	OLDSMOBILE TRUCK				
2502	M-2, M-3	1915-16-17	U.R.	3.25	2985	T. 3/4 Ton	.....	F.	8.50
2503	M-4	1917-18	F.	5.75	2986	T. 3/4 Ton	.....	R.	20.00
2504	M-4	1917-18	L.R.	12.00	OVERLAND				
2505	M-4	1917-18	U.R.	16.25	3000	75 and 9000	1916	F.	6.00
MOON					3001	75 TC, 90 C. C.	1916	R. Cant.	10.00
2525	6-36	1918	F.	6.50	3001A	75, 90, P. L. D. & 900, EX.	1916-17	R. Cant.	11.50
2526	6-36	1918	R.	13.00	3002	75 Roadster, 90 Short Chs.	1916	R. Cant.	9.75
NASH (JEFFERY)					3002A	79	1914	F.	7.50
2700	6-61	1916	F.	8.25	3002B	79	1914	L.R.	9.00
2701	6-61, T. C.	1916	L.R.	14.75	3003	80	1915	F.	7.25
2702	6-61, Roadster	1916	L.R.	14.00	3004	80 TC	1915	L.R.	11.50
2703	6-61	1916	U.R.	7.75	3005	80 Roadster	1915	L.R.	8.50
2704	462, 472	1915-16	F.	8.25	3006	80 Roadster	1915	U.R.	4.75
2705	462, 472	1915-16	L.R.	14.50	3007	80 TC	1915	U.R.	6.00
2706	472	1915	U.R.	6.50	3008	81, 83, 83B	1915-16-17	F.	7.00
2707	681, 2, 3, 4, 5, 6, 7 (9 P.L.)	1918-19	F.	10.50	3010	81 Roadster	1915-16	L.R.	7.50
2707A	681, 2, 3, 4, 5, 6, 7 (10 P.L.)	1919-20	F.	.....	3011	81, 83, 83B	1915-16-17	U.R.	4.00
2708	681, 3, 7	1918-19-20	R.	16.50	3012	82, 86, 88-4, 88-8, 86B, 89T.	.....	L.R.	13.25
2708A	682, 4, 5	1918-19-20	R.	18.00	3013	82, 86	.....	U.R.	13.50
2709	671	1917-18	F.	9.75	3014	86 (Cloverleaf)	.....	U.R.	5.75
2710	671	1917-18	R.	15.00	3015	82, 86	.....	L.R.	7.75
NASH TRUCK					3016	83 Roadster	1916	L.R.	7.75
2725	1 and 2 Ton (1918-3018)	1917-20	F.	18.25	3017	81, 83, 83B, TC	1916	R.	9.25
2726	1 Ton (2017-2018)	1917-20	R.	57.50	3018	84 (7 Plate)	1916	F.	7.50
2727	1 1/2 Ton (Jeffrey)	1916-17	F.	17.50	3019	84 (9 Plate)	1916	F.	7.75
2728	1 1/2 Ton (Jeffrey)	1916-17	R.	48.50	3021	84 TC	1916	L.R.	13.50
2729	2 Ton (2017-3018)	1917-20	R.	57.00	3022	84 Limo.	1916	L.R.	15.00
2730	2 Ton (Jeffrey Quad)	1915	F.	39.75	3024	84 Roadster	1916	U.R.	12.25
2731	2 Ton (Jeffrey Quad)	1915	R.	39.75	3026	84 TC and Limo.	1916	L.R.	6.25
2732	2 Ton (Nash Quad)	1917-18-19	F.	39.00	3028	84 Roadster	1916	U.R.	5.50
2733	2 Ton (Nash Quad)	1917-18-19	R.	41.00	3029	85-4, 85-6	1917	F.	8.50
					3030	85-4, 85-6, Roadster	1917	R. Cant.	15.00
					3031	85-4, 85-6 TC	1917	R. Cant.	16.75
					3032	88-4, 88-8	1917	F.	11.00
					3033	88-4, 88-8 TC	1917	R. Cant.	19.50
					3034	88-4, 88-8, 89 Sedan	1917	R. Cant.	22.50
					3035	89 Roadster	1917	R. Cant.	16.75
					3036	89, C. L. R.	.....	R. Cant.	20.00
					3037	90, 90B	.....	F.	6.00
					3038	90 TC	.....	R. Cant.	11.50
					3039	90, 90B, Sedan	.....	R. Cant.	11.50
					3040	90 B, TC	.....	R. Cant.	11.50

PITTSBURGH AUTO EQUIPMENT CO.

STAN-PAR SPRINGS

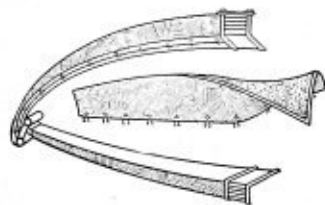
Stock No.	Model	Position	Price	Stock No.	Model	Position	Price					
3041	4	1920	F.	7651	2 Ton	R.	71.00					
3042	4	1920	R.	7652	5 Ton	F.	28.00					
				7653	5 Ton	R.	87.00					
PACKARD												
7559	3-38	1915	F.	19.00	PREMIER							
7560	3-38, 5-48 TC	1915	L.R.	27.50	3450	6B, 6C, 6D	1917-18-19	F.	13.50			
7561	3-38, 5-48 TC	1915	U.R.	11.00	3451	6B, 6C	1917-18-19	R.	23.25			
7562	3-38, 5-48, Coupe, Roadster	1915	L.R.	24.00	3452	6D (Closed Car)	1919-20	R.	25.25			
7563	3-38, 5-48, Coupe, Roadster	1915	U.R.	11.50	3453	6D, TC	1919-20	R.	25.50			
7564	3-38, 5-48, Limo.	1915	L.R.	29.50	RANIER TRUCK							
7565	3-38, 5-48, Limo.	1915	U.R.	13.00	3473	1500 lb., R-2		F.	9.25			
7566	3-38, 5-48, Salon	1915	L.R.	26.25	3474	1500 lb., R-2		R.	16.50			
7567	3-38, 5-48, Salon	1915	U.R.	10.50	3475	3 1/2, 1 1/2, 1 1/2 Ton R-6, R-11	1919	F.	9.50			
7568	5-48	1915	F.	22.00	3476	3 1/2, 1 Ton, R-11	1919	R.	19.50			
7569	1-25, 1-35 (Twin Six)	1916-17	F.	19.00	3477	1 1/2, 1 1/2 Ton, R-6 (13 Pl.)	1919	R.	29.00			
7570	1-25, 1-35 (Twin Six)	1916-17	R.S.	27.50	3478	1 1/2 Ton, R-4 (10 Plate)	1918	R.	20.25			
7571	1-25, 1-35 (Twin Six)	1916-17	R.C.	17.50	3479	1 1/2 Ton, R-6 (14 Plate)	1918	R.	31.25			
7572	3-25, 3-35, All Types	1918-19	F.	19.00	REO							
7573	3-25, 7 Pass., Salon, 3-35, TP., Salon, Brougham	1918-19	R.	36.50	3600	Fifth	1915	F.	8.00			
PACKARD TRUCK								3601	Fifth	1915	L.R.	9.75
7580	1D, 1E, WM. DR.		F.	26.00	3602	Fifth	1915	U.R.	6.25			
7581	1D, 1E, WM. DR.		R.	34.50	3603	Fifth	1916-17	F.	8.00			
7582	1 1/2 D, 1 1/2 E, WM. DR.		F.	29.50	3604	Fifth	1916-17	L.R.	10.00			
7583	1 1/2 D, 1 1/2 E, WM. DR.		R.	42.00	3605	Sixth	1915-16-17	F.	10.00			
7584	2D, 2E, WM. DR.		F.	32.00	3606	Sixth	1915-16-17	R.	19.00			
7585	2D, 2E, WM. DR.		R.	42.00	3607	T, U	1918-19	F.	8.50			
7586	2 Ton, CH. DR.		F.	28.50	3608	T, U	1918-19	R.	15.75			
7587	2 Ton, CH. DR.		R.	45.00	REO TRUCK							
7588	3 Ton, CH. DR.		F.	39.50	3609	3 1/2 Ton		F.	16.75			
7589	3 Ton, CH. DR.		R.	63.50	3610	3 1/2 Ton		R.	23.00			
7590	3D, 3E, 4D, 4E, WM. DR.		F.	41.00	3611	2 Ton		F.	26.50			
7591	3D, 3E, WM. DR.		R.	58.50	3612	2 Ton		R.	35.00			
7592	4D, 4E, WM. DR.		F.	68.00	REPUBLIC TRUCK							
7593	4D, 4E, WM. DR.		R.	68.00	3614	1 Ton		F.	14.50			
7594	4 Ton, CH. DR.		F.	41.00	3615	1 Ton		R.	26.75			
7595	4 Ton, CH. DR.		R.	71.00	3616	3/4 Ton		F.	7.25			
7596	5 Ton, CH. DR.		F.	51.00	3617	3/4 Ton		R.	24.00			
7597	5 Ton, CH. DR.		R.	100.00	3618	3/4 Ton (Long)		R.	20.00			
7598	5E, 6E, WM. DR.		F.	43.00	3619	1 1/2 Ton		F.	14.25			
7599	5E, WM. DR.		R.	95.00	3620	1 1/2 Ton		R.	34.25			
7600	6D, 6E, WM. DR.		F.	118.50	3621	2 Ton		F.	13.50			
PAIGE								3622	2 Ton		R.	37.50
3400	36, 1 1/2 inch	1913-14	F.	6.75	3623	3 Ton		F.	24.50			
3401	36, 2 inch, Late	1914-15	R. Top 1/2	8.50	3624	3 Ton		R.	105.00			
3402	36	1913-14-15	F.	7.75	RIKER TRUCK							
3403	6-46 (7 Plate) TC	1915	F.	9.25	3625	3 & 4 T., (6 Pl., Band Cen.)		F.	24.50			
3405	6-46 (9 Plate) TC	1915	R. Cant.	17.75	3626	3 Ton (9 Plate)		F.	37.50			
3406	6-46 TC	1915	F.	10.00	3627	3 Ton (15 Plate)		R.	80.00			
3407	6-46 Roadster	1915	R. Cant.	16.75	3628	3 Ton (14 Pl., Band Cen.)		R.	78.00			
3408	6-46 Roadster	1915	R. Cant.	12.50	3629	4 Ton (8 Pl., Band Cen.)		F.	29.50			
3410	6-36	1916	F.	8.50	3630	4 Ton (17 Pl., Band Cen.)		R.	85.75			
3411	6-38, 6-39	1916-17	R. Cant.	11.25	3631	4 Ton (17 Pl., Band Cen.)		R.	95.00			
3412	6-38, 6-39 Roadster	1916-17	R. Cant.	12.50	3632	4 Ton (17 Plate)		R.	82.00			
3413	6-38, 6-39 TC	1916-17	R. Cant.	12.50	ROAMER							
3414	6-51, 6-55	1917-18	F.	11.00	3660	R. AH, TC	1917-18	F.	10.25			
3415	6-51, Coupe	1917-18	R. Cant.	20.00	3661	R. AH, TC	1917-18	L.R.	17.00			
3416	6-51, 6-55 TC	1917-18	R. Cant.	20.00	3662	R. AH, TC	1917-18	U.R.	9.00			
3417	6-51, Sedan	1917-18	R. Cant.	22.00	3663	RA, TC and Sedan	1917-18	F.	9.75			
3420	15-19	1919-20	F.	10.00	3664	RA, Sedan	1917-18	R.	15.50			
3421	15-19	1919-20	R.	20.00	3665	RA, TC	1917-18	R.	15.00			
PAIGE TRUCK								SANFORD TRUCK				
7625	2 Ton		F.	33.00	3775	2 1/2 Ton		F.	27.00			
7626	2 Ton		R.	69.50	3776	2 1/2 Ton (Box Eye)		R.	63.25			
7627	1 1/2 Ton		F.	17.75	3777	2 1/2 Ton (Wrapped Eye)		R.	62.00			
7628	1 1/2 Ton		R.	43.76	3778	3 1/2 Ton		F.	37.50			
PATTERSON								3779	3 1/2 Ton (Box Eye)		R.	93.00
5050	6-42, 6-45	1916-17-18	F.	9.00	3780	3 1/2 Ton (Wrapped Eye)		R.	90.50			
5051	6-42, 6-45, TC	1916-17-18	L.R.	11.25	3781	5 Ton		F.	45.00			
5052	6-42, 6-45, Roadster	1916-17-18	L.R.	10.00	3782	5 Ton		R.	114.00			
5053	6-42, 6-45, Roadster	1916-17-18	U.R.	7.00	SAXON							
5054	6-46	1919	F.	9.25	3800	4-Cyl.	1915-16	F.	4.25			
5055	6-46, TC	1919	R.	15.25	3801	4-Cyl.	1915-16	R.	4.25			
5056	6-46, Roadster	1919	R.	13.25	3802	6-Cyl.	1915-19	F.	8.75			
5057	6-47	1919-20	F.	9.50	3803	6-Cyl. TC	1915-16	R.	11.50			
5058	6-47, TC	1919-20	R.	15.00	3803A	6-Cyl. Roadster	1915-16	R.	10.00			
5059	6-47, Roadster	1919-20	R.	13.25	3805	6-Cyl.	1917-18-19	R.	16.00			
PEERLESS								SAYER 6				
3425	EE, DD	1915	F.	9.75	3810	50 Limo.	1919	F.	9.25			
3425A	EE, DD, Limo.	1915	R.S.	14.25	3811	50 Limo.	1919	R.	19.50			
3425B	EE, DD, Limo.	1915	R.C.	12.00	3812	TC	1919	F.	8.50			
3425C	EE, DD, TC	1915	R.S.	13.25	3813	TC	1919	R.	13.75			
3425D	EE, DD, TC	1915	R.C.	11.00	SCRIPPS-BOOTH							
3426	8-56 (9 Leaf)	1916-17	F.	10.50	3825	C 4-Cyl.	1917	F.	4.50			
3427	8-56	1916-19	R.S.	14.75	3826	C 4-Cyl. TC	1917	R.	7.00			
3428	8-56	1916-19	R.C.	12.00	3827	C 4-Cyl. Roadster	1917	R.	6.75			
3429	8-56 (10 Leaf)	1918-19	F.	11.25	3828	D 8-Cyl.	1917-18	F.	6.50			
3430	6-48	1914-15	F.	25.00	3829	D 8-Cyl.	1917-18	R.	12.00			
3431	6-48	1914-15	R.S.	32.50	3830	6-39	1918-19	F.	6.50			
3432	6-48	1914-15	R.C.	32.50	3831	6-39	1918-19	R.	10.25			
PEERLESS TRUCK								SELDEN TRUCK				
3432	4, 5 and 6 Ton		F.	38.00	5000	1 Ton, Mod. TX, TXL	1918-19	F.	13.00			
3431	4 Ton		R.	63.25		Int. Dr.	1916					
3434	5 Ton		R.	115.00		Mod. TG, TCL, Int. Dr.	1916					
						Mod. T, TL, Wm. Dr.	1916					
PIERCE-ARROW TRUCK												
7650	2 Ton		F.	29.00								

**WHOLESALE DISTRIBUTORS
STAN-PAR SPRINGS**

Stock No.	Model	Position	Price	Stock No.	Model	Position	Price
5001	1 Ton, Mod. TX. TXL, Int. Dr.	1918-19		3912	4-Cyl.	1916-17-18	U.R. 5.00
	Mod. TC. TCL, Int. Dr.	1916	R. 25.25	3913	6-Cyl. Limco.	1916-17-18	U.R. 5.75
	Mod. T. TL, Wm. Dr.	1916		3914	Series 19 & 20, Light 4	1919	F. 7.25
5002	1 & 1 1/2 Ton, Mod. J. JL, JB, JBL	1915	F. 17.00	3915	Series 19 & 20, Light 6 & Big 6	1919-20	F. 9.00
5003	1 & 1 1/2 Ton, Mod. J. B. JBL	1915	R. 31.00	3916	Series 19 & 20, Light 4, TC	1919-20	R. 10.75
5004	1 & 1 1/2 Ton, Mod. J. JL	1915	R. 31.75	3917	Series 19 & 20, Light 6, TC	1919-20	R. 14.50
5005	1 1/2 Ton, Mod. T. TL, TC, TCL	1919	F. 14.25	3918	Series 19 & 20, Big 6, TC.	1919-20	R. 16.50
5006	1 1/2 Ton, Mod. T. TL, TC, TCL	1919	R. 28.50		STUTZ		
5007	2 Ton, Mod. B. BL, BR, BRL	1917-18-19	F. 18.00	3925	TC and Roadster.	1917-18	F. 7.50
5008	2 Ton, Mod. B. BL, BR, BRL (First Series)	1917-18	R. 35.25	3926	TC and Roadster.	1919	F. 8.50
5009	2 Ton, Mod. B. BL, BR, BRL (Second Series)	1918	R. 35.50	3927	TC	1917-18-19	R. 15.00
5010	2 Ton-Mod. JW, JWL, Wm. Dr.	1915	F. 16.50	3928	Roadster	1917-18-19	R. 14.50
5011	2 Ton-Mod. JW, JWL, Wm. Dr.	1915	R. 34.00		TEMPLAR		
	Mod. JC, JCL, Int. Dr.			4100	4-45 TC	1918	F. .50
5012	3 1/2 Ton, Mod. N. NL, NF, NF.	1916	F. 27.50	4101	4-45 TC	1918	R. 21.50
5013	3 1/2 Ton, Mod. N. NL, NF.	1916	R. 63.75	4102	4-45 Sedan, Limco.	1918	F. 13.50
5014	3 1/2 Ton, Mod. N. Wm. Dr.	1917	F. 27.75	4103	4-45 Sedan, Limco.	1918	R. 23.75
5015	3 1/2 Ton, Mod. N. Wm. Dr.	1917	R. 55.25		VELIE		
5016	3 1/2 Ton, Mod. A	1918-19	F. 27.00	4150	15	1916	F. 12.25
5017	3 1/2 Ton, Mod. A	1918-19	R. 64.75	4151	15	1916	L.R. 16.75
5018	5 Ton, Mod. D		F. 44.75	4152	15	1916	U.R. 8.00
5019	5 Ton, Mod. D		R. 110.00	4153	22, 28, 38,	1916-17-18	F. 10.50
5020	2 1/2 Ton	1920	F. 19.25	4154	22, 28, 38,	1916-17-18	L.R. 12.25
5021	2 1/2 Ton	1920	R. 47.75	4155	22, 28, 38,	1916-17-18	U.R. 6.75
	SIGNAL TRUCK				VELIE TRUCK		
5065	J. 2 1/2 Ton, F. 1 1/2 Ton, H. 1 1/2 Ton		F. 30.25	4200	17, (8 Plate)		F. 9.00
5066	F. 1 1/2 Ton		R. 39.25	4201	17, (8 Plate)		R. 13.00
5067	H. 1 1/2 Ton		R. 43.50	4202	18, (6 Plate)		F. 9.00
5068	J. 2 1/2 Ton, R-5 and 7 Ton		R. 50.00	4203	18, (7 Plate)		R. 12.50
5069	M. 3 1/2 Ton, R-5 and 7 Ton		F. 38.75	4204	20, 21		R. 11.50
5070	M. 3 1/2 Ton		R. 71.25		WHITE		
5071	M. 5 and 7 Ton		R. 108.75	4538	G. H. TC.	1915	R.F. 14.00
	SMITH-FORM-A-TRUCK			4539	G. H. TC.	1915	L.F. 15.00
3850	1 Ton (11 Plate)	R. 16.00		4540	G. H. TC.	1915	L.R. 16.50
3851	1 1/2 Ton (12 Plate)	R. 21.00		4541	G. H. TC.	1915	U.R. 8.50
3852	2 Ton (11 Plate)	R. 33.50		4542	G.H. Roadster	1915	L.R. 14.00
3853	2 Ton	C. 10.00		4543	GED, 7 P.	1915	R.F. 24.00
3854	1 Ton	C. 8.00		4544	GED, 7 P.	1915	L.F. 20.25
3855	1 Ton (12 Plate)	R. 16.00		4545	GED, 7 P.	1915	L.R. 30.75
	STANDARD TRUCK			4546	GED, 7 P.	1915	U.R. 13.50
3860	1 Ton, Mod. 56.	1919	F. 12.25	4547	GAI	1916	F. 12.75
3861	1 Ton, Mod. 56.	1919	R. 35.00	4548	GAI	1916	L.R. 31.00
3862	3 1/2 Ton, Mod. 66-8.	1919	F. 22.50	4549	GBC, Taxi	1916	F. 17.50
3863	3 1/2 Ton, Mod. 66-8.	1919	R. 51.75	4550	CBC, Taxi	1916	L.R. 26.50
3864	3 Ton, Mod. 30.	1919	R.F. 23.75	4551	GE. 5 and 7 P.		R.F. 20.00
3864	3 Ton, Mod. 30.	1919	L.F. 23.25	4552	GE. 5 and 7 P.		L.F. 20.25
	STEARNS			4553	GE. 5 P.		R.L.R. 28.25
3875	SKL-4, SK-8 (Roll Pt.)	1916-17-18	F. 9.25	4554	GE. 5 P.		U.L.R. 29.00
3876	SKL-4, Limco.	1916-17-18	R. 24.25	4555	GE. 5 P.		U.R. 15.00
3877	SKL-4, 5P.	1916-17-18	R. 21.50	4556	GE. 7 P.		R.L.R. 32.50
3878	SKL-4, SK-8 (Dia. Pt.)	1916-17-18	F. 8.50	4557	GE. 7 P.		L.L.R. 34.00
3879	SK-8, Limco.	1916-17-18	R. 25.25	4558	GE. 7 P.		U.R. 17.25
3880	SK-8, 7P.	1916-17-18	R. 22.25	4559	GEE		F. 27.00
3881	SKL-4, 4 and 5 P.	1919-20	F. 17.50	4560			R. 66.00
3882	SKL-4, 4 and 5 P.	1919-20	R. 25.00		WHITE TRUCK		
3883	SKL-4, 7P.	1919-20	R. 35.00	4500	3 3/4 Ton (8 Plate) Dia. Pt.		F. 10.00
3884	SKL-4, Limco.	1919-20	R. 38.00	4500A	3 3/4 Ton (9 Plate) Roll Pt.		F. 20.00
3885	SKL-4, 3 P. and Cab.	1919-20	R. 20.00	4501	3 3/4 Ton (9 Plate) Dia. Pt.		F. 20.00
3886	SKL-4, Coupe	1919-20	R. 27.00	4502	3 3/4 Ton (Spec. Heavy)		R. 38.50
	STEWART TRUCK			4503	3 3/4 Ton (Spec. Heavy)		R. 42.50
3892	6, 3 3/4 Ton		F. 8.75	4504	1 1/2 and 2 Ton		F. 25.50
3893	6, 3 3/4 Ton		R. 14.75	4505	1 1/2 Ton		R. 47.50
3894	8, 1 Ton		F. 11.75	4506	2 Ton		R. 54.50
3895	8, 1 Ton		R. 22.50	4507	3 Ton (New Style)		F. 39.25
3896	9, 1 1/2 Ton		F. 16.25	4508	3 Ton (New Style)		R. 83.00
3897	9, 1 1/2 Ton		R. 37.25	4509	5 Ton (New Style)		F. 44.50
3898	7, 2 Ton		F. 20.00	4510	5 Ton (New Style)		R. 114.00
3899	7, 2 Ton		R. 47.50				
3890	10, 3 1/2 Ton		F.	4700	21 (9 Plate)		F. 22.50
3891	10, 3 1/2 Ton		R.	4701	21 (10 Plate)		F. 25.00
	STUDEBAKER			4702	21, Limco.		L.R. 30.00
3900	4-Cyl.	1914-15	F. 7.00	4703	21, Runabout		R. 26.50
3901	4-Cyl. TC	1914-15	L.R. 7.75	4704	21, TC		L.R. 28.00
3902	4-Cyl. TC	1914-15	U.R. 9.00	4705	21		U.R. 13.50
3903	4-Cyl. Roadster	1914	L.R. 6.00	4706	21A		F. 16.25
3904	4-Cyl. Roadster	1914	U.R. 6.75	4707	21A, TC		L.R. 21.00
3905	4-Cyl. Roadster	1915	L.R. 6.50	4708	21A, Runabout		L.R. 20.00
3906	4-Cyl. Roadster	1915	U.R. 6.50	4709	21A, Limco.		L.R. 25.50
3906A	6-Cyl.	1914-15	F. 7.50	4710	21A, Limco.		U.R. 11.25
3907	6-Cyl. and 3 3/4 Ton	1916-17-18	F. 8.50	4711	22	1916-17-18	F. 21.75
3907A	4-Cyl. Roadster	1916-17-18	L.R. 9.00	4712	22	1916-17-18	L.R. 33.00
3908	4-Cyl. Roadster	1916-17-18	L.R. 11.25	4713	22A, Roadster	1917-18-19	U.R. 16.00
3909	4-Cyl. TC	1916-17-18	L.R. 14.00	4714	22A, 5 and 7 P.	1917-18-19	F. 18.00
3910	6-Cyl. TC	1916-17-18	L.R. 12.75	4715	22A, Roadster	1917-18-19	L.R. 25.25
3911	6-Cyl. Roadster	1916-17-18	L.R. 12.75	4716	22A, 5 and 7 P.	1917-18-19	L.R. 26.50
				4717	22A, 5 and 7 P.	1917-18-19	U.R. 12.50
				4718	25	1919-20	F. 22.00
				4719	25	1919-20	R. 33.75
				4720	25	1919-20	R. 32.00

WOODWORTH SPRING LUBRICATING COVERS

For All Cars



Consists of a series of neat imitation leather felt-lined covers which fit over the spring leaves. As shown in illustration, the edges overlap on under side, one edge having a row of small steel hooks

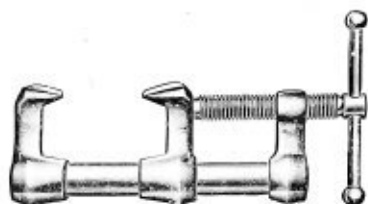
which hook into the other edge, making a dirt-proof cover that keeps the springs properly lubricated. The felt lining should be well oiled once a year.

As the Woodward Spring Lubricating Cover completely encloses the spring leaves from the "U" bolt clamps to the end of the spring, the entire spring is automatically supplied with the proper amount of oil. Saves spring breakage, absolutely prevents squeaking, and insures easy riding. Made in sizes to fit all cars. Sold in complete sets, fitting all springs.

The following list is not complete, but shows the most popular cars only:

Name of Car	Model	List Price, Per Set
Buick	34 and 35	8 8.00
Buick	44, 45 and 49	8.50
Buick	54, 55 and 56	9.00
Buick	H & K-45	7.00
Buick	H & K-47 and 49	10.00
Cadillac		12.00
Chalmers	6-30	10.20
Chandler	1917 and 1918	9.80
Chevrolet	490	4.80
Chevrolet	F. A.	6.70
Cole	8 Cyl.	10.40
Dodge		10.70
Essex		9.90
Ford	(Special Sets)	3.20
Grant	6 Cyl.	7.00
Haynes	1918 and later	9.00
Hudson Super Six		10.80
Hupmobile		9.50
Jeffery	4 and 6 Cyl.	10.40
Jordan		10.40
King	8 Cyl.	8.20
Kissel-Kar	100 Point 6	11.30
Lexington	6-0	12.10
Lexington	6-R	10.00
Marmon		9.20
Maxwell	1917 and later	9.10
Mercer		12.00
Mitchell	C-42	10.00
Mitchell	D-40	8.90
Nash	6 Cyl.	10.20
Oakland	34	8.90
Oakland	37 and 38	10.60
Oldsmobile	45	10.90
Oldsmobile	57	9.20
Overland	75 and 90	8.50
Overland	85 and 86	8.90
Overland	83 B	11.10
Packard	Series 2	12.60
Packard	Series 3	11.20
Paige, Linwood and		
Pleewood		8.10
Paige, Larchmont		10.00
Paige, Fairfield, Stratford and Essex		8.50
Pearless	56	11.20
Pierce-Arrow	38 and 48	12.00
Pierce-Arrow	66	13.00
Ren	6 Cyl.	8.00
Saxon	6 Cyl.	7.20
Scripps-Booth	4 Cyl.	7.10
Scripps-Booth	6 Cyl.	9.90
Scripps-Booth	8 Cyl.	8.10
Studebaker	1919-6 Cyl.	11.00
Vellie	22-5	12.40
Vellie	1917 and 1918	10.90
Willis-Knight	84	9.90
Willis-Knight	84-B	12.00
Willis-Knight	88-8, 88-4 and 89	9.40

SPRING LEAF LUBRICATOR



For easy lubrication of auto springs. Consists of a screw clamp with tapered jaws which forces the spring leaves apart, allowing oil to be inserted between the leaves. Well lubricated springs rarely break. Stops all squeaks, reduces spring breakage 50% and makes the car ride like a Pullman. Made of drop forged steel, polished nickel plate. Weight, 15 oz.

Spring Leaf Lubricator. List Price, Each.....\$2.00

BUCKEYE SPRING REPAIRER



A simple, practical device for a temporary repair of any size broken spring leaf.

As shown in illustration, may be used for breaks at any part of spring. A wooden under-support is provided to prevent slipping if the spring repairer is used at center at shackles.

Made of best quality malleable iron with broad iron U bolts.

Finished in black enamel. Invaluable to the tourist. Made in three sizes.

No. 1 Buckeye Spring Repairer

For springs up to 2-inch width.

List Price, Each.....\$2.60

No. 2 Buckeye Spring Repairer

For springs 2 to 2½ inches wide.

List Price, Each.....\$3.65

No. 3 Buckeye Spring Repairer

For springs 2½ to 3 inches wide.

List Price, Each.....\$4.70

ONAN SPRING SPREADER



Every mechanic knows well oiled springs rarely break and ride 50 per cent easier. The Onan Spring Spreader consists of an adjustable clamp, fitting springs from 1½ to 3¼ inches in width. The pointed bit, made from high grade tool steel, is inserted between the leaves and the spring leaves spread by means of the powerful leverage supplied by the long lever handle.

Most car owners insist on keeping their springs well lubricated. Urge your customers to have their springs lubricated and reap the benefit in extra profits.

Onan Spring Spreader. List Price, Each.....\$8.00

Spring Clips

Drop Forged

We recommend these Spring Clip Assortments in Boxes as being the best way to handle Spring Clips in the Garage, Repair Shop, or Accessory Store.

SPRING CLIPS



Complete with Hexagon Nuts.

Packed 25 in wooden box.

For 1½-inch Springs

Size No.	Flat	Stem	Over All	Per 100
150-A	1	¾	3	\$30.00
150-C	1	7/16	2½	34.00
150-D	1-3/16	7/16	2¾	34.50
150-E	1-7/16	7/16	3	35.00

For 1¾-inch Springs

Size No.	Flat	Stem	Over All	Per 100
175-B	1	7/16	2¾	\$36.50
175-C	1-3/16	7/16	3	37.00
175-F	1½	7/16	3¼	37.50
175-P	1¾	7/16	3¾	39.00
175-H	2	7/16	3½	38.00
175-J	2½	7/16	4	39.00

For 2-inch Springs

200-B	1-3/16	7/16	3¼	\$39.50
200-E	1½	7/16	3¼	39.50
200-G	1¾	7/16	3¾	41.00
200-H	1-15/16	7/16	4¼	41.50
200-HH	2¼	7/16	4½	42.00
200-L	1½	½	3½	45.40
200-N	1¾	½	3¾	46.00
200-P	2¾	½	4¾	47.80
200-V	1½	9/16	4	63.00
200-KK	2	9/16	4	63.00
200-ZZ	2½	9/16	4¾	69.00
200-A A	2	¾	4½	79.00

For 2¼-inch Springs

225-C	1¾	½	4	\$48.60
225-B	2	½	4	48.60
225-D	1¾	9/16	4	64.50
225-P	2½	¾	4½	83.00

For 2½-inch Springs

250-D	2	½	4½	\$54.80
250-C	2¾	½	6¼	68.00
250-M	1¾	9/16	4½	70.25
250-E	2¾	¾	4¾	89.00

SPECIAL

Ford Front	For Model T	\$75.00
Ford Rear	For Model T	75.00

Order by size Number, Column on left.

SPRING CLIPS FOR CHEVROLET Baby Grand Model

No. 103 Rear Lower, per C	\$43.00
No. 104B Rear Lower, per C	43.00
No. 105B Front, per C	42.00
Model 490, 106F Front, per C	48.00
No. 107F Rear, per C	42.00

The above complete with Hex Nuts.

FU-60 SPRING CLIP ASSORTMENT

60 Clips—14 Sizes



Consists of a total of 60 Spring Clips of the following sizes: Four each 150D; 175C; 175F; 175H; 200B; 200G; 200L; 200BB; two each 225D; 225B; 250D; 250M; ten each Ford Front and Rear Spring Clips. Complete with Hex Nuts. Each Assortment packed in strong wooden box hinged cover. An excellent repair shop assortment.

FU-60 Spring Clip Assortment. List Price.....\$33.00

U-72 SPRING CLIP ASSORTMENT

72 Clips—12 Sizes



Especially recommended for the repair shop. Assortment consists of Six Each 150D; 175C; 175F; 175H; 200B; 200G; 200L; 200BB; 225B; 225D; 250D; 250M. Spring Clips complete with Hex Nuts. Packed in strong wooden box with hinged cover.

U-72 Spring Clip Assortment. List Price.....\$37.50

QS-32 SPRING CLIP ASSORTMENT

32 Clips—14 Sizes



Assortment consists of four each front and rear and two each of the following numbers: 150D; 175C; 175F; 175H; 200B; 200G; 200L; 200BB; 225B; 225D; 250D; 250M. Complete with Hex.

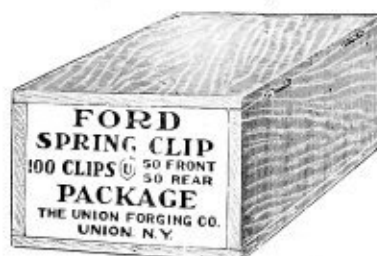
Nuts. Packed in strong wooden box with slide cover.

QS-32 Spring Assortment. List Price.....\$20.00

F-100 SPRING CLIP ASSORTMENT

For Fords

100 Clips—50 Front, 50 Rear



Complete with castellated nuts and cotter pins.
Packed in neat wooden box with hinged cover.

F-100 Spring Clip Assortment. List Price.....\$42.75

Also sold in Boxes of 25 Front or Rear Clips, complete with cotter pins and castellated nuts.

OV-60 SPRING CLIP ASSORTMENT

For Overlands

60 Clips—10 Sizes

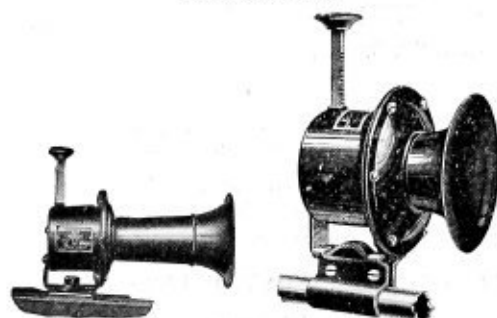


Assortment consists of Six Each (two each for front rear upper and rear lower) for Models 59, 60, 61, 69, 71, 79, 80, 81, 82, 83 Overland. Complete with Hex. Nuts.

OV-60 Spring Clip Assortment. List Price.....\$34.75

STEWART HORNS

Hand Operated



No. 114

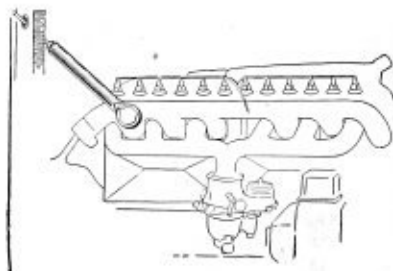
No. 115

Made in two styles with long or short bell. All parts bolted on, no solder used. Bell is one-piece steel. Finished in black baked-on enamel and equipped with double-supporting adjustable bracket. Will out-wear several cars.

Short bell type frequently used for trucks and motorcycles.

No. 114—With Long Bell. List Price, Each.....\$4.75

No. 115—With Short Bell. List Price, Each.....4.75

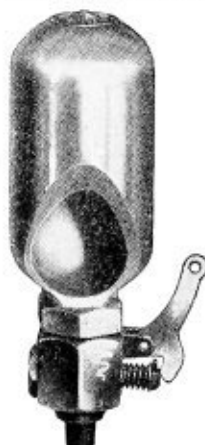
LIBERTY SIREN

Consists of a nickel plated Siren for attachment to exhaust manifold by drilling and tapping one $\frac{3}{4}$ inch pipe hole, then screwing on Siren. Operated by pulling cord. Gives a loud, powerful warning signal far ahead. Cannot clog or wear out. Invaluable for trucks or heavy cars.

Liberty Siren. List Price, Each.....\$3.50

INTERSTATE COMPRESSION WHISTLES

FOR HEAVY CARS AND TRUCKS.



A loud, long-distance warning signal that instantly clears the road. Simply remove the priming cup from one cylinder and screw it in. Operated by a cord from steering column. Nothing to break or get out of order. Made entirely of bronze and aluminum.

If motor is not equipped with priming cups, use an Interstate Adaptor (\$1.00 extra) which screws into spark plug hole. May be used with any spark plug.

Sold complete, ready to install.

Interstate Compression Whistles. List Price,
Each\$4.00

STEWART HORNS

No. 136-C



No. 136-A

Motor driven. Made with high speed motor with one-piece steel projector and back cover. Parts riveted and bolted, and finished in hard baked-on black enamel.

Outfits include bracket, push-button, terminals, and 6 feet of electric cord. Made with either bell-shaped or straight type projector.

No. 136-A Straight Projector, under hood type.
List Price, Each.....\$10.00

No. 136-C, with Bell-Shaped Projector.
List Price, Each.....10.00

The KLAXON Line



KLAXON 12-L

As efficient as the Klaxon 20. Constructed for underhood installation.

List Price.....Each, \$16.50



KLAXON 6

Slightly smaller in size than the Klaxon 12. Its construction is the crowning result of years of experience in building quality signals.

List Price.....Each, \$8.50

"REGULARS"



KLAXON 20-L

The finest Automobile Warning Signal made. Penetrating tone, remarkable construction. Needs practically no attention whatever.

List Price.....Each, \$30.00

Klaxons are regularly finished in all black. For all other finishes such as black and nickel, black and brass, etc., add \$1.00 to the list prices. Electric Klaxons can be operated from dry cells or storage batteries. They are regularly wound for 6 volts. For special voltages up to 21 volts no extra charge is made.



KLAXON 3

A hand-operated safety signal of the same quality and efficiency as the electrically operated instruments. Horizontal push rod.

List Price.....Each, \$4.75



KLAXON 3-V

Vertical push rod. In every other respect the same as Klaxon 3.

List Price.....Each, \$4.75



KLAXON 20-Deck

Klaxon 20-L with swivel-bracket. Constructed for installation on automobile running boards or for yachts and motorboats.

List Price, Ea. \$33.00



KLAXON 20-S

Same mechanical construction throughout as the Klaxon 20-L. The short projector makes practically no difference in tone.

List Price, Each, \$30.00



KLAXON 12-S

Same mechanical construction throughout as the Klaxon 12-L. The short projector makes practically no difference in tone.

List Price.....Each, \$16.50



KLAXON 6-Deck

Klaxon 6 with swivel bracket. Constructed for installation on automobile running boards or for yachts or motorboats.

List Price.....Each, \$9.75

"SPECIALS"

The same—mechanically—as the Klaxon 6, but has a torpedo projector.

List Price.....Each \$7.25



KLAXON 5

The most reliable and powerful hand-operated signal ever made. Built especially for trucks and fire apparatus where sturdiness is essential and where the best obtainable is desired.

List Price, Ea. \$12.75



KLAXON 10

Same as Klaxon 3 but constructed with short projector for motorcycle use. Furnished with handlebar, frame or tank bracket.

List Price.....Each \$4.50



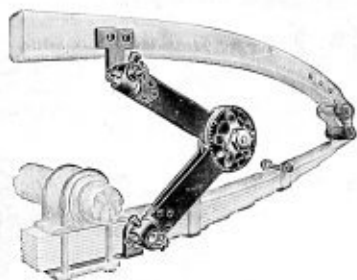
KLAXON 3-M.C.

Same as Klaxon 3-V but constructed with short projector for motorcycle use. Furnished with handlebar, frame or tank bracket.

List Price.....Each \$4.50



KLAXON 3-V.M.C.



Prices Five Models

Heavy Car size, for cars from 3,800 pounds up, per set of four

\$70.00

Standard, for cars from 2,800 to 3,800 pounds, per set of four

\$60.00

Intermediate, for cars from 2,000 to 2,800 pounds, per set of four

\$50.00

Junior, for cars up to 2,000 pounds, per set of four

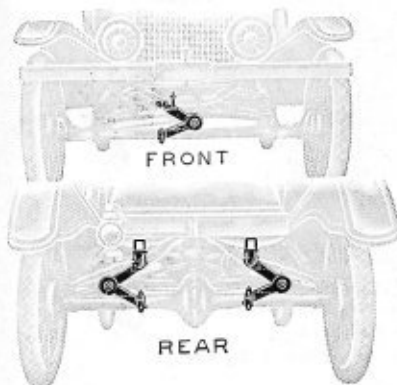
\$40.00

Ford Set—Three Shock Absorbers, one front and two rear, complete with attachments

\$30.00

Complete Fittings

Each set of the five models is complete and ready to apply, including the special fittings and the necessary bolts, nuts, spring washers, etc., with a detailed blue print showing the application. Mention make, model and year of car when ordering.



HARTFORD SHOCK ABSORBERS FOR THE FORD

THESE famous cars, factory-equipped with Hartford Shock Absorbers:

Argonne
Biddle
Cole
Crawford

Marmon
McFarlan
Mercer
National

Premier
Revere
Singer
Stutz, Etc.

Hartford SHOCK ABSORBER

"Makes Every Road a Boulevard"

THE pioneer Shock Absorber. Used by more than 500,000 motorists. Standard equipment on America's best-built cars.

Takes the jolt and jar out of the roughest road. Makes any car an easier-riding car.

HARTFORDS regulate both the action and reaction of springs. Cushion the load at any speed over any road. Prevent discomfort to passengers and protect car-mechanism from destructive shocks.

By taking most of the burden from the springs HARTFORDS prevent spring breakage and by eliminating wheel bouncing they add hundreds of miles to tires—cut down repair costs—save gasoline and oil.

The new SWIVEL-ENDS take all strain off the Absorber-Arms. A set of HARTFORDS will outlast any car—and save its cost every year.

Special fittings and attaching diagrams are supplied for almost every make and model car. By ordering in lots of 25 sets, divided among the most popular cars in their neighborhood—jobbers can fill 90% of their HARTFORD orders right from stock with a very small stock.

RUBBER BUMPERS

Made of finest quality rubber specially compounded to withstand severe shocks. Will effectually prevent broken springs. Packed six in carton.



No.	Height	Width	Hole	List Price
6	2 1/4"	1 3/4"	7/8"	\$.50
7	3 1/2"	1 1/2"	1 1/8"	.60

Gabriel Rebound Snubbers

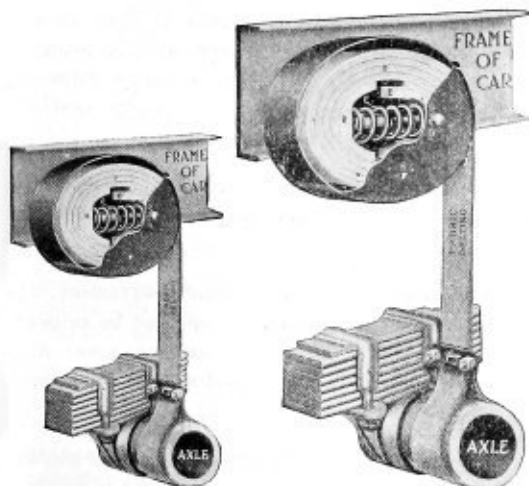
— Absorb the Jolts —

MADE FOR ALL CARS AND TRUCKS

Invaluable for every type of spring. Easily and quickly applied, either by bolting on to frame or by drilling two small holes.

HOW IT WORKS

As the car springs compress, the spring within the coil expands and takes up the slack in the belting, then as the rebound commences, the coils of belting begin to tighten and create friction on the band of brass between them, thus forming a resistance that increases gradually as the coil compresses the spring within it. This action steadies and controls the car springs, and causes them to regain their normal position gradually without jerk or abrupt stop. The result is the occupants move with the seat instead of being bounced or jolted from it.



FOR FORD CARS

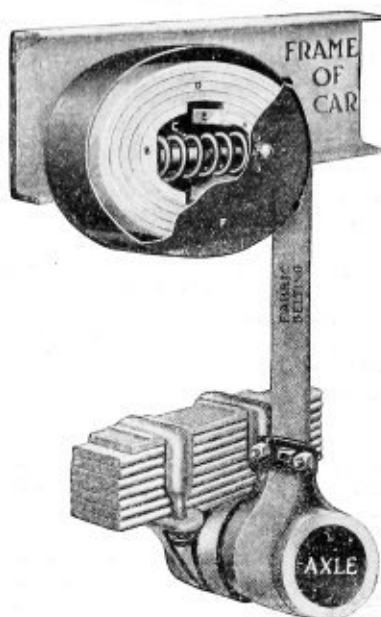
Equally valuable for use on Ford cars, as they give the effect of much longer wheel-base and invariably reduce spring breakage. Constructed of the same high quality materials and workmanship, but equipped with special fittings for attachment to Ford cars.

FURNISHED IN SETS OF FOUR SNUBBERS

COMPLETE WITH FITTINGS

List Price

For Ford Touring, Roadster and Closed cars.....	\$15.00
For Ford One-Ton Truck.....	22.50
For Smith Form-a-Truck	23.50



List Prices

- No. 1—1½ x 4½" Cup, for cars weighing less than 2,000 pounds.....\$18.00 per set, \$9.00 per pair.
- No. 2—1½ x 5½" Cup, for cars weighing 2,000 to 3,000 pounds.....\$24.00 per set, \$12.00 per pair.
- No. 3—1½ x 5½" Cup, for cars weighing from 3,000 to 3,600 pounds.....\$30.00 per set, \$15.00 per pair.
- No. 4—2 x 6" Cup, for cars weighing over 3,600 pounds; also for Light Delivery Trucks.
.....\$36.00 per set, \$18.00 per pair—See below.
- No. 5—2½ x 7" Cup, for Trucks of 2 to 5 Ton.
.....\$40.00 per set, \$20.00 per pair.

Above prices are for Standard Type Snubbers.

We advise No. 3 Snubbers for front and No. 4 Snubbers for rear of cars weighing from 3,600 to 4,500 pounds—for heavier cars No. 4 Snubbers front and rear.

There is an extra charge of 50c to \$2.50 per set for special Snubbers or fittings.

Mention name, model and year of car when ordering. If pairs only are wanted, state whether for front or rear of car. Snubbers are finished in black enamel.

MENTION MAKE, MODEL, YEAR AND STYLE OF CAR IN ORDERING.

PYRENE FIRE EXTINGUISHER



Approved by the Underwriters Laboratories. Pyrene Fire Extinguishers are the safest and the most efficient type for preventing or stopping fires starting in oil, gasoline, paint or other inflammable material. Absolutely safe around electrical apparatus, wires, etc., as Pyrene Liquid is a non-conductor of electricity. Every car equipped with a Pyrene Fire Extinguisher is entitled to a 15% reduction in fire insurance premium.

Pyrene Fire Extinguishers may be used as often as necessary, the only thing necessary being to refill the extinguisher at a nominal cost. Light in weight, easily operated; absolutely dependable under all circumstances.

Pyrene Liquid cannot injure the finest fabric or polished metal surface. Will not freeze nor deteriorate if extinguisher is not used.

Most motor boats carry Pyrene Extinguishers, as U. S. Government Navigation Laws require an extinguisher to be available at all times.

Always use Pyrene Liquid in refilling Pyrene Fire Extinguishers, as

the use of other liquids may injure the mechanism.

List Price Pyrene Fire Extinguisher complete with Black Enameled Bracket as illustrated, \$10.00

List Price Pyrene Liquid, per qt. 1.50

" " " " gal. 6.00

For use in garages, stores, electrical shops, etc., metal boxes painted bright red are especially desired. Each box holds one Pyrene Fire Extinguisher behind a glass cover. This prevents tampering with extinguisher and glass is easily broken if extinguisher is needed.

List Price Pyrene Fire Extinguisher, complete with Metal Box Container. \$11.00

List Price Metal Box Container. 1.50

WATCHMAN'S HOLSTER

The U. S. Navy and most large factories equip every watchman with a heavy reinforced canvas holster which enables the Pyrene Fire Extinguisher to be carried at all times in a convenient kit.

List Price Pyrene Fire Extinguisher, complete with Holster. \$11.00

List Price Holster only. 1.50

JOHNS-MANVILLE FIRE EXTINGUISHER



Approved by the Underwriters Laboratories. A convenient portable Fire Extinguisher. Extinguisher is one quart capacity and operates either by pumping out the liquid or by creating and storing sufficient pressure with nozzle closed to discharge contents when nozzle is opened.

Fire insurance companies grant a 15% reduction in automobile fire insurance to all cars equipped with Johns-Manville Fire Extinguishers.

Light in weight; easily handled; convenient; absolutely effective where water could not be satisfactorily used, such as gasoline, oil, or paint fires. Also invaluable in electrical fires as J-M Liquid is a non-conductor of electricity.

Johns-Manville Fire Extinguisher Liquid is guaranteed not to injure the most delicate fabric or polished metal surfaces.

In refilling Johns-Manville Fire Extinguishers be sure to use genuine Johns-Manville Fire Extinguisher Liquid.

Johns-Manville Fire Extinguisher, nickel or brass finish, complete with black enameled bracket for wall, automobile, or truck use.

List Price \$10.00

Packed in individual boxes, five extinguishers to a carton.

Johns-Manville Fire Extinguisher Liquid.

List Price, per qt. \$1.50

Packed five to a standard carton.

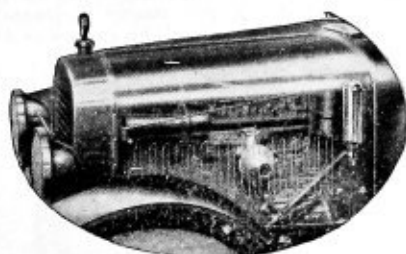
BOYCE

FIRE EXTINGUISHER

WORKS BOTH AUTOMATICALLY AND BY HAND

The Boyce Fire Extinguisher is a splendid selling item. It instantly attracts attention on account of its striking appearance.

It is a combined sprinkler system and hand-operating fire extinguisher, made in the unique form of a



Under the Hood—Automatic Protection
Against Fire

graceful crystal container filled with the most effective fire extinguishing fluid known.

Every one knows the real need of a fire extinguisher. The "Boyce" has a double utility—it works automatically and may also be operated by hand. **NO PUMPING IS EVER NECESSARY.**

Installed under the hood, the Boyce Fire Extinguisher automatically gets into operation the instant a fire breaks out. The heat of the fire, combined with the heat of the engine, converts the liquid into a quenching gas that smothers the blaze completely.

An overheated motor cannot affect it. Only the increase in temperature caused by an actual blaze can put it into operation. If fire should break out in any other part of the car, the Boyce Fire Extinguisher can be quickly released from its bracket and operated by hand.

The "Boyce" is equally effective in home, garage, or general use.

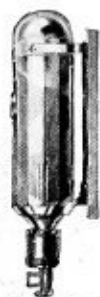
Used Boyce Fire Extinguishers are refilled for a very nominal charge.



Front View



For Hand Operation,
Simply Remove Top.



Side View
Mounted on
Handsome
Metal Bracket

PRICE LIST

Model 1—Pint size	\$6.00
Model 2—Quart size	8.00
No. 1 Extinguisher (without bracket)	5.50
No. 2 Extinguisher (without bracket)	7.00
Bracket only for No. 1	1.00
Bracket only for No. 2	1.50

GUARDENE FIRE EXTINGUISHER

Approved by the Underwriters Laboratories. 2½ gallon capacity of the soda and acid type. Made of cold-rolled copper, highly burnished and heavily tin-plated inside to prevent corrosion. In the head of the Extinguisher is a bronze cage containing a bottle half filled with sulphuric acid. The tank itself is filled with a solution of bicarbonate of soda. A lead stopper in the bottom prevents the acid's deteriorating.

To operate Extinguisher simply turn it upside down. The lead stopper falls out and the mixing of the acid and soda solution generates a gas pressure sufficient to throw a stream 40 feet. The stream may be shut off by turning the Extinguisher right side up again.

Each Guardene Fire Extinguisher is tested to 350 pounds' pressure, while the working pressure in use is only 100 pounds.

Each Guardene Fire Extinguisher is equipped with best quality five-ply chemical hose attached by a swivel joint and guaranteed not to leak. May be refilled at nominal cost. Capacity, 2½ gallons. Weight, 40 pounds.

Guardene Fire Extinguisher	List Price \$15.00
"Refills" for Guardene Extinguishers	List Price .50



The perfect motor heat gauge. To be attached to the radiator cap of any motor vehicle. Accurately registers the average temperature of the entire cooling system. Instantly warns the driver of over-heating—before the damage occurs. Invaluable for winter use as it shows the necessary radiator exposure to achieve maximum motor efficiency.

DELUXE MODEL

Built specially for the finest automobiles. Case is beautifully finished in silver plate with extra large dial readable at a great distance. Size 3 3/4" x 5 3/4".
List Price\$15.00

STANDARD MODEL

Standard equipment on many of America's leading cars. Equipped with broad thermometer tube for easy reading. Beautifully finished. Size 3 3/4" x 5 1/2".
List Price\$10.00

FORD MODEL

Especially valuable on Ford cars which frequently have tendency to over-heat. This model furnished complete with specially designed radiator cap. Size 2 3/8" x 3 7/8".
List Price\$3.50

**JUNIOR MODEL**

Intended for medium sized cars. Frame is heavily nickel plated and shows same range of temperature as higher priced models. Size 3" x 4 3/8".
Price List\$5.00

OVERLAND SPECIAL MODEL

Designed specially for Overland, Willys Six, and Willys Knight Cars. Made in four models:
Standard. List Price.....\$10.00
Universal. List Price.....7.50
Junior. List Price.....5.00
Midget. List Price.....2.50
Note: 1920 Willys Knight Cars use regular type Standard Model.

UNIVERSAL MODEL

Slightly smaller than Standard Model and finished in all nickel. Beautiful crystals add to its appearance. Easily readable. An ornament to any car. Size 3" x 5".
Price List\$7.50

TRUCK MODEL

Made to withstand the hardest service almost impossible to break. Casing nickel plated. Thermometer tube thoroughly protected. Easily read even when covered with dust. Size 2 7/8" x 4 3/4".
List Price\$10.00

MIDGET MODEL

For all small cars. Accurately and strongly made to fit on the regular radiator cap. A beautiful little instrument. Size 2 1/4" x 3 3/8".
List Price\$2.50

HANDSOME COUNTER DISPLAY STAND FURNISHED FREE WITH ORDERS FOR TEN OR MORE ASSORTED SIZE MOTOMETERS.

ON ORDERS OF TWENTY OR MORE MOTOMETERS THE NAME OF CAR WILL BE ENGRAVED ON DIAL FREE OF CHARGE.

IN ORDERING SPECIFY EXACTLY WHAT YOU WANT.

STEWART SPEEDOMETER PARTS

PRICE-LIST OF EQUIPMENT PARTS

STEWART LUBRICANT [1997]



DRIVE PINIONS



Cotter Pin Type can be used on any Swivel Joint except 1911 Type

SWIVEL JOINT



[No. 1913 right hand]
[No. 1959 left hand]

FLEXIBLE SHAFT HANGER 7208



STEERING KNUCKLE CLAMP PARTS



[4015]



[4017]



[4025]



[512]



[4003]



[4032]



[4014]



[4007]

GREASE CUP CAPS

A grease cup is an integral part of all swivel joints made since 1911. Three types of grease cups have been used, so that in ordering caps it is necessary to note carefully the inside diameter of the cap. Determine which of these sizes you have and order by number.

$\frac{1}{8}$ -inch inside diameter—1832
 $\frac{1}{4}$ -inch inside diameter—1826
 $\frac{3}{8}$ -inch inside diameter—1858

ROAD WHEEL GEARS



Cut-Out Type



Plain Type

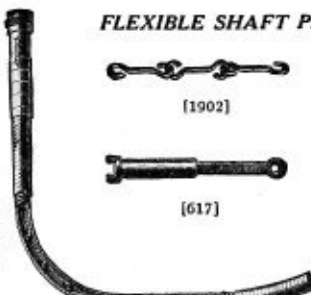
FLEXIBLE SHAFT PARTS



[1902]



[617]



[1799]

Stewart Flexible Shaft

RUBBER BUSHING



[1996]



[1880]

Price List of Parts for Stewart Speedometers

(Effective January 1st, 1919)

Part No.	Description	Price	Part No.	Description	Price
	Swivel Joint	\$3.00	4025	Clamp Part (swivel block)	\$0.25
	Grease Cup Cap	.20	4015	Clamp Part (cross-bar)	.30
1799	Flexible Shaft, complete without leather covering	3.50	4017	Clamp Part (axle clip)	.20
1911	Flexible Shaft Casing, without leather covering	2.00	4014	Clamp Part ("S"-clamp link)	.30
	Extra length casing (over 78 inches) per foot	.40	4007	Clamp Part (cross bar and straight link—one piece)	.45
1880	Upper End Clutch of Chain	.15		Dash Bracket, single instrument	1.25
617	Sliding Bar and Lower End Clutch of chain	.25	1996	Rubber Fender Washer	.15
	Road Wheel Gear, complete with Washers and Screws	1.25	7208	Strap or Hanger for Flexible shaft	.20
	Washers and Screws for use on road wheel gear (set of 3)	.15		Angle Sleeve	2.00
	Pinion or Small Gear (fibre)	.25		Extra Length Shaft (over 78 inches) per foot	.60
512	Clamp for Steering Arm, complete	1.50	1902	Flexible Shaft Chain, per foot	.30
	Stud Bolt Clamp	1.75	1997	Stewart Flexible Shaft Lubricant, per can	.50
4003	Clamp Part (upright)	.60	616	Flexible Shaft, Ferrule and Union	.25
			4032	Clamp Set Screw	.10

Macbeth and Liberty Lenses

Legally Approved in All States.

NOTE.—Pennsylvania Laws permit the use of a maximum of 27 candle power nitrogen gas-filled Tungsten Bulbs with Macbeth and Liberty Lenses.

Macbeth Lenses

With the Green Visor

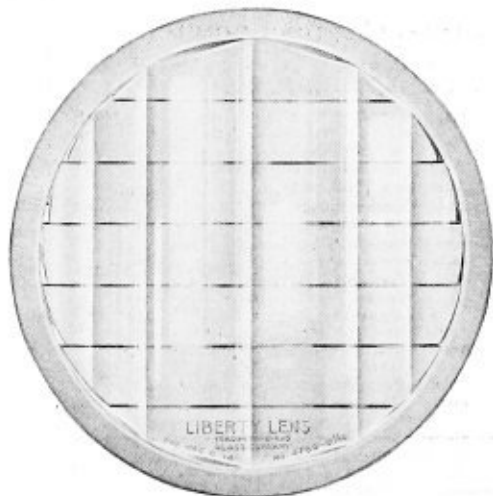
Built by the largest manufacturers of Lighthouse Lenses in the world and using the same principles of light projection as employed in the big lighthouse and battleship Lenses.

Macbeth Lenses consist of a series of horizontal prisms so arranged as to project the light straight ahead of the vehicle, with the light rays not exceeding a height of 42 inches from the ground at a point measured 75 feet ahead of the vehicle, thus complying with Pennsylvania and other state laws.

A handsome Green Glass Visor adds greatly to the appearance of Macbeth Lenses, making them not only a practical, legal, diffusing Lens, but also an ornament to any car.

FOR SIZES SEE OPPOSITE PAGE.

Macbeth Lens. List Price, per pair, all Sizes.....\$5.25



Liberty Lenses

Identical in design with Macbeth green glass visor lens, and embodying the same principles of light projection, excepting that they do not have the green visor.

A handsome, inexpensive, diffusing Lens, meeting the legal requirements in all states.

FOR SIZES SEE OPPOSITE PAGE.

Liberty Lens. List Price, per pair, all Sizes, \$3.00

WHOLESALE DISTRIBUTORS

MACBETH AND LIBERTY LENSES

For All Cars

NOTE—This List is not guaranteed correct, but is compiled from latest data obtainable.

Name of Car	Model	Size of Lenses	Name of Car	Model	Size of Lenses	Name of Car	Model	Size of Lenses
Abbott-Detroit	1916	10	Haynes	1915-20-33	10	Oakland	1918-19	9 1/2
Allen	1917-18	9 1/2		34-37	10		32-52	8 1/2
	37	9 1/2		34-35	10		34	8 1/2
0-38-41, 1919		8 1/2	1918-20 Sedan	9 1/2			34-38	8 1/2
45, 1920		8 1/2		1917-18, 44	9 1/2		40-36	9 1/2
American "Beauty"	1920	9 1/2		41-1918	8 1/2		Sensible Six	8 1/2
American Six	1918	9		1919-45	8 1/2			42
Anderson	6-40-1918	9 1/2		1919-46	9 1/2			38
	1918	8 1/2	Hollier	1916-17-18	8 1/2	Oldsmobile	All Models	8 1/2
	1920	8 1/2	Holmes	All Models	9 1/2	Olympian	1918-8	8
Apperson	1915	10	Hudson	13-40, 14-40, 15-40, 16-40	9 1/2	Overland	Model 75-90	8 1/2
	1914-16-17	9 1/2		13-54, 15-54	10 1/2			75
	1918-19	8		1917-18-19-20 Super Six	9		81, 83, 85-B	8 1/2
Auburn	1916, All Models	10		1917-18-19-20 Speedster	9		79-80-82-84	9 1/2
	1917-18	10 1/2	Hupmobile	All Models incl. 1918	8 1/2		85-6TL	9 1/2
	438-448	10 1/2		1919	8 1/2		1918-85-4	8 1/2
	644-1917-18-19	9 1/2		R-1920	8 1/2		1918-85-6	8 1/2
	Upper	3 1/2	Imperial	Touring 1915	8 1/2			1918-89
	Lower	9 1/2	Interstate				1918-90, 1919-90	8 1/2
Baker	M-25	8 1/2		1915-16-17-18-19, All Models	8 1/2		4 Cyl. Sedan 1919	9 1/2
Briscoe	1916-4-38	8 1/2	Jackson	44-46, 1915	10		6 Cyl. Sedan 1919	9 1/2
	1916-8-38	8		34-34S, 1916	9 1/2	Packard	325-335	9 1/2
	1917-M-424	7 1/2		1913-14-15-16	10		1911 N C 1912	9 1/2
Buick	E D-24-25-36-37	7 1/2		33	10 1/2		298-338-348-358-365	10 1/2
	E D-44-45-46-47	8 1/2		38, 1916	10		1916-17 Auxiliary	3 1/2
	B-55, C-24-25-36	8 1/2		34A, 34SA, 68A, 1917	9 1/2		1918-19 Auxiliary	3-3/16
	C-37	9 1/2		349, 1918	9 1/2			225
	D-55	9 1/2	Jeffrey	C-6, 1915	9 1/2		3-25, 3-35, 1918-19-20	8 1/2
	E D-34-35	7 1/2		618, 1915	9 1/2	Paige	1915-16-17-18-19	9 1/2
Little Six '17, 1918-E-44, E-45		8 1/2		1961, 1916	9 1/2	Pathfinder	Twin 6	9 1/2
H-44, H-45, N-44, N-47		8 1/2		1961, 1917	8 1/2	Peterson	6-42, 6-45, 1917-18-19	8 1/2
E-50, H-49, H-50, 1919		9 1/2		1917-4 and 6	8 1/2	Peerless		1912
K-46, K-47, 1920		9 1/2	Jordan	All Models	9 1/2		All, 8-Cyl.	9 1/2
K-49, K-50, 1920		9 1/2	King	1916, All Models	9 1/2		6-2884	9
Cadillac	1912-13	10		D-15	9 1/2		3177	9 1/2
	1914-15-16-17-18-19-20	9 1/2		1917 EE-17	9 1/2	Pierce	56-1918-19-20	9 1/2
Case	1916-17-18	8 1/2		EE8-1918-1919	9 1/2	Pierlot	1913-14-15-16-17-18-19	9 1/2
	1919-20	9 1/2	Kissell Kar.		8 1/2	Pilot	All Models	9 1/2
Chalmers	24-26-29-26B	10		4-36	9 1/2	Premier	6 D-1920 Upper	9 1/2
	32-32B-6-30	9 1/2		6-38	10 1/2		Lower	3 1/2
	35A-35B-35C-35D	8 1/2		6-42	9 1/2	Pullman		1915
	1919-20	8 1/2		6-48	9 1/2		1916-17-18	8 1/2
Chandler	1915-Early	10 1/2		1919	8	Regal	All Models	10
	1915 Late	9 1/2	Lexington	All 1916 Models	9 1/2	Reo	Early 1914	10
	1916-17-18	9 1/2		All 1917 Models	9 1/2		Late 1914	9 1/2
	1918 Despatch	9 1/2		All 1918-19 Models	9 1/2		1915-16-17	9 1/2
	1919-20	9 1/2	Liberty Six	10-A	8 1/2		1918-19-4 Cyl.	9 1/2
Cleveland	1920	9		1917-18-19-10-B	9 1/2		T-6, U-6, 1920	9 1/2
Chevrolet	490 Little Car	8	Loe-moblie	1913-14-15-16-17-18-19	9 1/2	Roamer	All Models	9 1/2
	D	9 1/2		1914-15	11	Ross	1916	9 1/2
	F	8 1/2	Lozier	1916-17-18-19	9 1/2		1917-18-19	9 1/2
Baby Grand	1919-SE	8 1/2	McFarlan	1915	9 1/2	R & L	Electric	8 1/2
	8 Cyl. 1919	8 1/2		1916-17	9 1/2	Saxon	4 Cyl.	8 1/2
Cole	1914-15, 6-60	10 1/2		1918-19	9 1/2		6 Cyl.	8 1/2
	1915, 4-47	9 1/2		Lower	3 1/2	Scrapps-Booth	6-4 and 1914-15	8
	1915, 8-50	9 1/2		1920	10 1/2		Model D-8	8 1/2
800-861, 1916-17, All Models		9 1/2	Marion	1917-A	8 1/2		1918-19 4 Cyl.	8 1/2
	870-871-872-1918	9 1/2		1917-18-19-B	9 1/2		1918-19 8 Cyl.	8
	"8"-1919	8	Marmion	32, 1913-14	9 1/2	Simplex	4 Cyl.	10
	1920	8		41, 1914	9 1/2		6 Cyl.	10 1/2
Columbia Six	1917-18-19	8 1/2		41, 1915-16	10 1/2	Standard Steel Car	1918-19	9 1/2
Crow Elkhart	1916-17-18	8 1/2		34, 1916-17-18-19	9 1/2	Stanley	1916-17-18-19	9 1/2
Crawford	1920	9	Maxwell	M-25, 1920	8 1/2	Stearns-Knight		8
Cunningham	1920	11		1914	9 1/2			9
	V-4 Commercial, 1920	10 1/2		Series 15-16	8 1/2	Stephens	All Models	9 1/2
	9-A Limousine, 1920	10 1/2		Series 17	8 1/2	Stevens-Duryea	All Models	10 1/2
	1916-17-18-19	10		1919	8 1/2	Stewart	All Models	9 1/2
Daniels	All Models	9 1/2		1920	9	Studebaker	1913-4 Cyl.	8 1/2
Davis	1917-18-19	8 1/2		22-1915	8		All other Models	9 1/2
	1918-19	8 1/2	Metz	25-1916-17-18-19	8 1/2	Stutz	1916-17-18-19	10
Dodge	All Models	8 1/2		Master Six, 1920	9 1/2		1919 "Bear Cat"	9 1/2
Dorris	1920 Upper	3 1/2			9 1/2	Sun	Light Six	8 1/2
	Lower	2 1/2	Mitchell	1918-C-42 First Series	9 1/2	S V G	All Models	8 1/2
Dort	All Old Models	7 1/2		1918-D-40	8 1/2	Templar		9 1/2
	1918-19	8 1/2		C-442 Second Series	8 1/2	Vellie	15 and 27	10
Elcar	1916-17-18-19	9 1/2		6 of 16	9 1/2		22 and 28	9
Elgin	1917-18-19	9 1/2		1918-D 5-40	8		1919 Model 38	9 1/2
	H-1920	9 1/2	Moline Knight	All Models	9 1/2	Westcott	All Models	9 1/2
	K-1920	9 1/2	Monitor	1920	9	White	30	8 1/2
Emerson	1917	8	Moon	45-36	9 1/2		35	9 1/2
Empire	60	10 1/2		1917-18-6-66	10		45, 1915	10
	45	10		1917-18-6-43	8 1/2		21A, 1915	9 1/2
	1917-18	9 1/2		1918-6-36, 1919	8 1/2		1917-18	8 1/2
Euger	1916-17-18-19	10	Munroe	1920	9 1/2		1919-20	9 1/2
Essex	1919	8 1/2		1920	8 1/2	Willie Knight	85-4	8 1/2
	A-1920	8 1/2		M-4	8 1/2		80-6, 1916-80-6, 1917-88-4, 1917-	9 1/2
Ford	1915-16-17-18-19	8 1/2		M-3	9 1/2		88-8, 1918-88-8, 1919-88-8	9 1/2
	1915-16-17-18-19	8 1/2	Murray	All Models	9 1/2			21, 1915
Franklin	Series 4-5, 1914	10 1/2	Nash	1917	8 1/2		33 and 44, 1916	10 1/2
	Series 6-7	10 1/2		1918	8 1/2		Small Light	3 1/2
	Series 8	9 1/2		1919	8 1/2		20-22A-Baby Six	10 1/2
	Old Series 9, 1917	8 1/2	National	B B Series 1920	9 1/2		1916-17-18-19-20	8 1/2
	New Series 9, 1918	9 1/2		Highway 6 and 12	9 1/2	Woods Dual Power		7 1/2
Grant	1916-17-18-19	8 1/2		Newport	9 1/2			
H A L	1916-17-18-19	9 1/2						

RAYDEX

TRADE MARK

The Honeycomb Metalens

LEGAL IN ALL STATES



Four sizes—Fit 80% of cars.
Made of aluminum and brass.
Cannot rust.



Showing method of attaching
to lamp.

Raydex Unbreakable Metal Lens, all sizes.

List Price, per pair.....\$5.00

For Raydex Sizes for All Cars
see Opposite Page

All metal, glassless, convenient. Consists of 9,000 small metal reflectors .003 of an inch in thickness which deflect glaring light, focusing it in exactly the desired place.

No expensive glass lens to break. Simply insert Radex Metal Lens behind the plain glass headlight lens by drilling one small hole in reflector. Indestructible, unbreakable. Its 9,000 reflecting surfaces add 9 sq. ft. to the reflecting surface of headlights.

Complies with all State laws. Maximum candle power nitrogen filled bulb permitted in Penna.; 21 c. p. equivalent to large higher candle power bulb when used with thick, light-absorbing, "patent" glass lenses.

COUNTER DISPLAY RACK



Handsome counter display rack, lithographed in colors,
furnished free on request.

HEADLIGHT LENSES

PLAIN GLASS

Many deflecting devices use plain glass lenses in front of deflector. These plain glass lenses are made of selected, flat crystal sheet glass, cut exactly to size. Carried in stock in the following sized diameters: 8", 8 1/4", 8 3/8", 8 1/2", 8 3/4", 9", 9 1/4" and 9 1/2".

List Price per pr.

Size
8" to 8 1/2" inclusive.....\$.60
8 3/4" to 9 1/2" inclusive......75

TAIL AND SIDE LAMP LENSES

Fit all oil or electric tail or side lamp.

SEMAPHORE TYPE CLEAR GLASS

Diameter	List Price, Each
2 1/2" to 3"	\$.20
3 1/8" to 3 3/4"	.25
4"	.35

MANGIN MIRROR REFLECTORS

A high-grade polished glass Mirror with genuine silver reflecting surface. Mirror perfect parabolic shape.

Outside Diam.	List Price, Each	Outside Diam.	List Price, Each
4"	\$1.40	6"	\$1.95
4 1/2"	1.50	6 1/2"	2.40
5"	1.60	7"	2.90
5 1/4"	1.75	7 1/2"	3.50
5 1/2"	1.85	8"	4.10
5 3/4"	1.95	9"	5.65

TAIL AND SIDE LAMP LENSES

RED RUBY GLASS

Diameter	List Price, Each
2 3/8" to 3"	\$.25
3 1/8" to 3 3/4"	.30
4"	.40

WHOLESALE DISTRIBUTORS

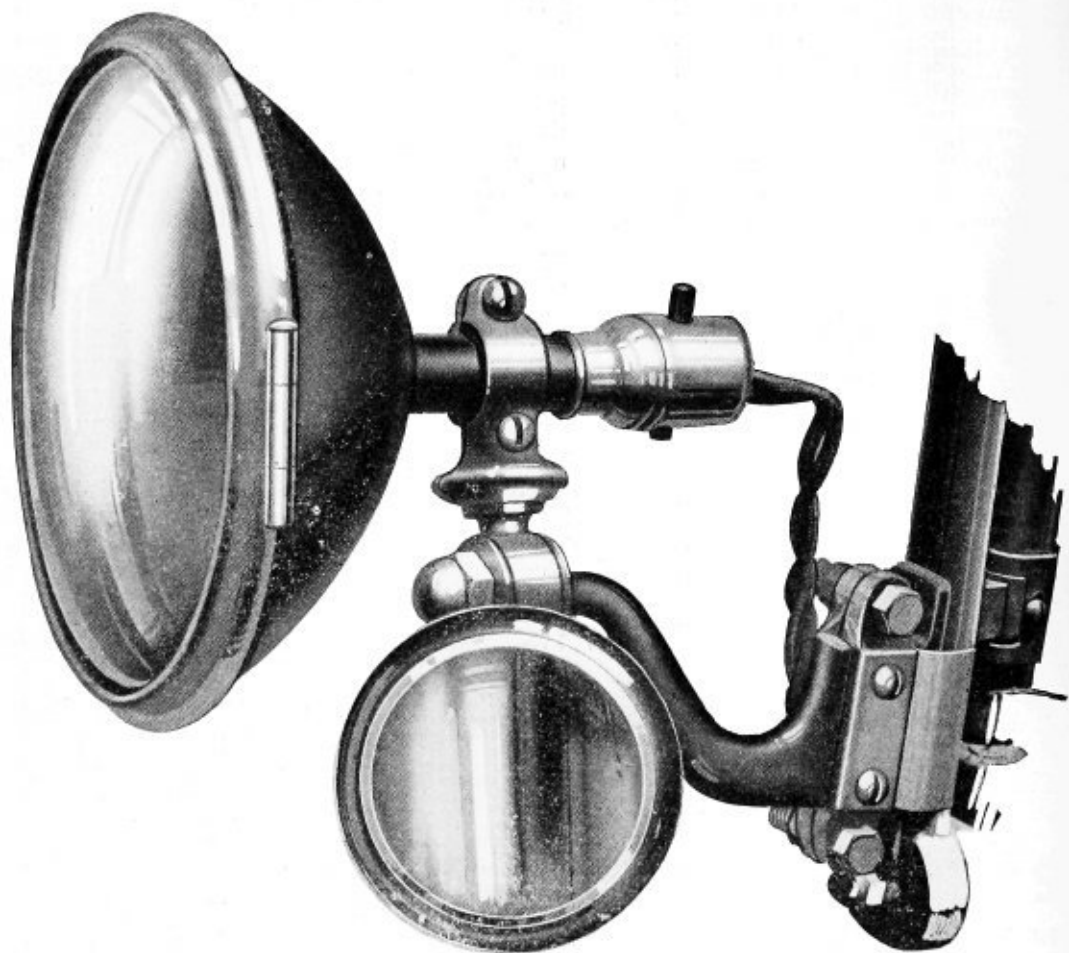
RAYDEX LENSES

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Name of Car	Year	Model	Raydex Size	Name of Car	Year	Model	Raydex Size
Abbott-Detroit	1916-17	6-60	60-A	Lozier	1916-17		60-A
Abbott-Detroit	1918	6-44	67-A	McFarland	1915-16-17-18		60-A
Allen	1916-17-18	All Models	60-A	Madison	1915-16-17		61-A
American	1916-17-18-19-20	All Models	56½-A	Marion-Handley	1916-17	6 (7-P)	52-A
Anderson	1916-17-18-19	All Models	60-A	Marion-Handley	1916-17		61-T
Apperson	1916-17-18-19	All Models	60-A	Matthies	1919-20	All Models	60-A
Auburn	1916-17-18	All Models	66-A	Marmon	1916-17-18-19-20	41-48 and 34-41	64-A
Auburn	1919-20	All Models	60-A	Maxwell	1915-16-17-18-19	All Models	55-A
Biddle	1917-18	All Models	60-A	Mercer	1914-15		64-A
Bour-Davis	1916-17-18	All Models	56½-A	Mercer	1916-17-18-19	All Models	64-A
Briscoe	1916-17	24 and 38	45½-A	Metz	1917		52-A
Briscoe	1917-18-19-20	All Models	50½-A	Metz	1917	25	50½-A
Buick	1915	C-36-37	61-T	Metz	1918-19		60-A
Buick	1916-17	D-34-35	50½-A	Mitchell	1917		49-L
Buick	1916-17	D-44-45-36-47	55-A	Mitchell	1917	Sedan	56½-A
Buick	1916	D-55	61-T	Mitchell	1918	C-42	56½-A
Buick	1917	E-49	60-A	Mitchell	1918	D-40	49-L
Buick	1918	E-44, E-45, E-46, E-47	55-A	Mitchell	1919-20	All Models	52-A
Buick	1918	E-34, E-35, E-4	50½-A	Moline-Knight	1917	7 and G	62-N
Buick	1918	E-49, E-50	60-A	Moline-Knight	1918-19		60-A
Buick	1919	H-49-50, K-49-50	60-A	Monroe	1917		50½-A
Buick	1920	H-44-5-6-7 and K-44-5-6-7	55-A	Monroe	1918		55-A
R.R. & L. Electric	1918	W-42	52-A	Moon	1916	630	53-A
Cadillac	1912-13		73-P	Moon	1917	Touring	55-A
Cadillac	1913-14-15-16-17-18-19	All Models	62-N	Moon	1917	Roadster	66-A
Case	1916-17-18	All Models	52-A	Murray	1918-19		60-A
Case	1917-18	All Models	53-A	Murray	1917-18		60-A
Case	1919-20	All Models	60-A	Nash	1917	671	52-A
Chalmers	1913	All Models	74-P	Nash	1918	681	52-A
Chalmers	1914	36	64-P	National	1917-18-19		64-P
Chalmers	1915-16	6140	60-A	Oakland	1914		60-A
Chalmers	1916-17	All Models	52-A	Oakland	1915	36	55-A
Chalmers	1917-18		60-A	Oakland	1915	Little Six	55-A
Chalmers	1918-19		52-A	Oakland	1917	89	55-A
Chalmers	1920		55-A	Oakland	1918-19-20		50½-A
Chandler	1915		67-A	Oakland	1920	5-Passenger	50½-A
Chandler	1915-16-17		60-A	Oldsmobile	1912		73-P
Chandler	1917-18	53-32-B	60-A	Oldsmobile	1915	37-45-A	52-A
Chandler	1919-20		60-A	Oldsmobile	1916-17-18	37-A-42-43-44-45B	55-A
Chevrolet	1916-17	Small 4	50½-A	Overland	1915	80	58-W
Chevrolet	1917-18-19-20	Baby Grand	61-T	Overland	1915	82	62-N
Cole Motor	1916-17-18-19-20	All Models	60-A	Overland	1915	81	56½-A
Cleveland Six	1919-20	All Models	55-A	Overland	1916	83	56½-A
Columbia	1917-18-19	All Models	55-A	Overland	1917-18	85-4, 85-6	56½-A
Crawford	1915-16		52-A	Overland	1917-18	89	62-N
Crawford	1918-19-20		56½-A	Overland	1917-18	90-95	50½-A
Crow-Elkhart	1916-17	All Models	55-A	Overland	1919	Light Four	50½-A
Crow-Elkhart	1918-19-20	All Models	60-A	Packard	1913	138, 348	78-V
Cunningham	1916-17	V-2	70½-Z	Packard	1914	238, 448	70-V
Daniels	1918-19-20	All Models	60-A	Packard	1915-16-17	All Models	66-K
Davis	1915-16		60-A	Packard	1918-19-20	325, 335	58-Q
Davis	1917-18		55-A	Packard Dimmers			26-PI
Davis	1919-20		60-A	Patience	1916-17-18-19-20	All Models	60-A
Dodge	1916-17-18-19-20	All Models	52-A	Pathfinder	1916-17		64-A
Dort	1915-16-17-18	All Models	55-A	Peterson	1918-19-20	All Models	55-A
Elcar	1916-17-18-19-20	All Models	61-T	Peerless	1913	All Models	62-N
Elgin	1917	6-E	61-T	Peerless	1916-17-18-19-20	All Models	60-A
Elgin	1918		60-A	Pierce-Arrow	1910		67-A
Empire	1916-17		60-A	Pierce-Arrow	1913-14-15		67-J
Essex	1919-20	All Models	56½-A	Pierce-Arrow	1917		60-JJ
Ford	1915-16-17-18-19-20		50½-A	Pierce-Arrow	1917-18-19		65-J
Franklin	1917	Model 9-A	58-A	Pilot	1916-17-18-19-20	All Models	55-A
Franklin	1917	Model 9	61-T	Premier	1916-17-18		61-T
Franklin	1918-19	Model 9-B	56½-A	Pullman	1917	T-16	55-A
Grant	1916-17	All Models	52-A	Regal	1917-18		55-A
Grant	1918-19-20		55-A	Reo	1916-17-18-19-20	All Models	60-A
Haynes	1915-16-17	30-33, 36-37, 34-35	67-A	Roamer	1917-18-19-20		61-T
Haynes	1917-18-19	All Models	60-A	Ross	1916		65-P
Hollier	1917-18		52-A	Ross	1917		61-T
Hollier	1919-20	45-6	60-A	Saxon	1916-17-18-19-20		55-A
Holmes	1919-20	All Models	60-A	Scripps-Booth	1916-17		52-A
Hudson	1913	54	65-P	Scripps-Booth	1918-19-20		55-A
Hudson	1914-15-16	6-40	60-A	Standard	1917-18-19		60-A
Hudson	1916	Super 6	58-A	Standard	1920		55-A
Hudson	1917-18-19-20	Super 6	60-A	Stanley	1914-15-16-17-18-19-20		60-A
Hupmobile	1915-16		58-A	Stearns-Knight	1916	L-4	60-A
Hupmobile	1918-19	R	50½-A	Stearns-Knight	1917	Touring	60½-F
Hupmobile	1919		53-A	Stearns-Knight	1918	Chummy & Sedan	61-T
Interstate	1916-17-18		60-A	Stearns-Knight	1918		60½-F
Interstate	1915-16	T	60-A	Stevens	1917-18-19-20	All Models	60-A
Jackson	1916-17-18-19-20		60-A	Stewart	1917-18		60-A
Jeffrey	1916-17	All Models	52-A	Studebaker	1915		58-A
Jordan	1917		58-A	Studebaker	1916-17-18		50½-A
Jordan	1918		60-A	Studebaker	1918	6 Cyl.	60-A
Jordan	1919-20	T-M	60-A	Stutz	1914-15	16 Valve	61-T
Jordan	1919-20	T-W	55-A	Stutz	1917-18		64-P
King	1916-17-18-19	All Models	60-A	Templar	1917-18		60-A
Kissel Kar.	1916-17-18		67-A	Vellie	1913		64-P
Kissel Kar.	1917		60-A	Vellie	1916-17-18		60-A
Kissel Kar.	1919-20		50½-A	Vellie	1919-20		64-A
Kline	1916-17-18	All Models	55-A	Westcott	1917-18-19		60-A
Lexington	1916-17-18-19		64-A	White	1915		52-A
Liberty	1916-17		55-A	White	1916	45	60-A
Liberty	1918-19		61-T	White	1918	G. M. C.	64-A
Liberty	1920		58-A	Willys-Knight	1916-17-18	84	62-N
Locomobile	1914	Model L	63½-D	Winton	1914-15	20-21	70½-Y
Locomobile	1917-18		60½-E	Winton	1915	21-A	62-N
Locomobile	1917-18-19-20		61-T	Winton	1916-17-18		67½-Y
				Winton	1919-20	24-25	55-N
				Winton			58-PI

RAYDEX
TRADE MARK
 The Honeycomb Metals

SPOTLIGHT



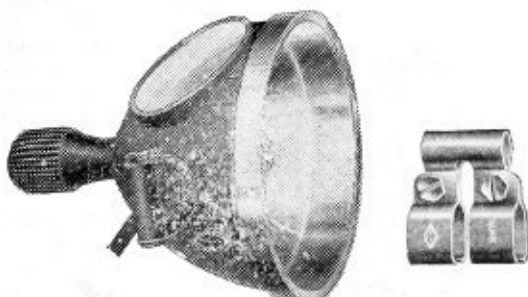
List Price with Mirror	\$14.00
“ “ without Mirror	12.00

The finest Spotlight ever made. Constructed entirely of brass, aluminum, and silver, with no iron parts to rust. Is 6½ inches in diameter, projecting a powerful concentrated beam of light with all glare eliminated. Legal in every state. One type bracket fits every windshield. Sold with or without 4 inch silvered reducing mirror.

Raydex Spotlights are equipped with the wonderful Raydex Honeycomb Metallic Unbreakable Lens, with 9,900 metal reflectors projecting the light exactly where desired.

Each Raydex Spotlight is packed separately. Handsome counter display stand furnished free with orders for 48 Raydex Spotlights.

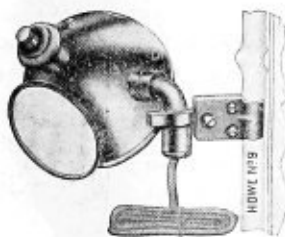
CULVER-STEARN'S GIANT SPOTLIGHT



Our biggest seller. Made with silver plated brass reflector and rim. Outside shell black enameled with strong rattle-proof "Universal" type bracket. Self-contained switch operated by turning handle to left or right. Equipped with 6-V. 21 C.P., Mazda Nitrogen filled Bulb and weather-proof attaching cord. Neat 3 inch reducing mirror adjustable to any desired position.

Culver-Stearns Giant Spotlight with mirror.
List Price, Each.....\$7.50
Extra Brackets. List Price......75

**HOWE SPOTLIGHT
No. 9**



The No. 9 Howe Spotlight is a complete, most serviceable, best advertised, popular priced Spotlight. In addition to the many well known exclusive Howe features, this lamp has the new exclusive Howe turn-button, waterproof switch, also the simple positive, exterior focusing device. Has 4-inch rear view mirror.

Equipped with 6-8 Volt 21C.P., Nitrogen Mazda lamp.
Finished in handsome baked-on black enamel.
The door is 7 1/4 inches in diameter; the lamp is 7 1/4 inches deep and weighs 3 pounds 5 ounces.
No. 9 Howe Spotlight. List Price.....\$8.00

**HOWE SPOTLIGHT
No. 5**

The No. 5 Howe Spotlight is a small, neat, complete, serviceable, popular priced Spotlight.

The lens is a heavy convex plate permitting the use of a G-12 bulb. This Spotlight is equipped with the exclusive Howe turn-button, waterproof switch and has a simple, positive, exterior focusing device. Has 4-inch rear view mirror.

ELECTRIC HEAD LAMPS

Models 601-608

A MASSIVE LAMP FOR
LARGE CARS.

Finish—Black and nickel or all black. Door—Octagon, locks on body with Victor pushbutton lock. Body—Drawn from one-piece, heavy gauge steel, two coats of black enamel baked on. Reflector—Parabola shape, highly polished, heavily silver-plated. Cord gasket, making lamps dust and rattle proof. Focusing Device—Outside type. Bulb—15 C.P., 6-8 V. Wiring—D. C. or S. C. Dimmer bulb.

In ordering specify whether single or double contact, with or without dimmer bulbs.

Specifications	Model 601	Model 608
Diameter	10"	11 1/4"
Distance between Prop Centers	7 1/2"	8 1/4"
List Price, per pair without dimmer bulbs	\$11.00	\$13.00
List Price, per pair with dimmer bulbs	12.50	14.50

ELECTRIC HEADLIGHT

Model 956 for Dodge Cars

A handsome lamp that is used as standard equipment on Dodge cars. Regularly furnished with single support (illustration shows double support). Finished in black and nickel or all black with hexagon door. Body one-piece heavy gauge steel finished in two coats of black baked-on enamel with parabolic silver plated mirror and gasket, making lamp dust, water, and rattle-proof. Convenient focusing device. Bulb 12-16 V. 21 C.P., Mazda nitrogen filled, unless otherwise specified. Made without dimmer bulb S. C. only.



Diameter lens 8 3/4"; diameter over all 10"; depth 5 3/4".

List Price, per pair.....\$11.00

GAS HEAD LAMPS

No. 403 for Trucks



Body—is drawn from one-piece heavy gauge steel with all parts solidly riveted. No solder used. Two coats of black enamel baked on. Finish—All black or black and nickel. Mirror—6" in diameter with Victor Mounting. Reflector—in door, Bezel type. Diameter—10", prop centers 8 1/2".

A massive Gas Head Lamp for high grade cars and trucks.

No. 403 Gas Headlamps. List Price, per pair.... \$10.50

ELECTRIC HEAD LAMPS

Model 600

For medium sized cars and trucks.



Body—drawn from one-piece of steel, two coats of black enamel baked on. Reflector—Parabola shape, silver-plated, cord gasket, making lamp dust and rattle proof. Door Hexagon shape, locks on with Victor pushbutton lock. Bulb—15 C.P., 6-8 V. Focusing Device—Outside type. Wiring—D. C. or S. C. Dimmer Bulb at additional cost. Diameter—9", Prop Centers 7".

LIST PRICES

Model 600 Electric Head Lamps, per pair, without Dimmer Bulbs	\$6.50
Model 600 Electric Head Lamps, per pair with Dimmer Bulbs	\$8.00

ELECTRIC HEAD LAMPS

Models 325-325BX

For Ford cars. Body—drawn from one-piece. Prop—one-piece type. Forged. Reflector—parabola shaped, silver-plated and corded. Finish—two coats black enamel inside and outside baked on. Bulbs—325 9 volt or 6-8 volt. Model 325BX has Dimmer Bulb.



LIST PRICES

Model 325, Head Lamps, per pair.....	\$7.00
Model 325BX, Head Lamps, per pair.....	8.50

X-RAY GAS HEAD LAMP

For Small Trucks and Motorcycles



Light produced is the strongest and most penetrating that is possible to secure. Reflector—indoor, Bezel type. Mirror—is 6" in diameter with Victor Mounting. Finish—Black and nickel. Diameter—8", prop centers 7 1/2".

X-Ray Gas Head Lamp. List Price, Each.....\$5.00

GAS SEARCHLIGHT For Trucks

A strong, serviceable Searchlight with all parts made of heavy steel riveted, not soldered, to withstand vibration. Bracket is universal type, adjustable permitting light to be thrown in any direction. Door 10-1/16" in diameter; lens 8-5/16" diameter; door is locked by knurled nut. Finished in neat black baked-on enamel, especially tested to withstand the heat generated by a gas lamp.



No. 10 G. S. Gas Searchlight. List Price, Each \$10.00

GAS HEAD LAMPS Nos. 400-400F

For medium sized cars and trucks.

Reflector—in door, Bezel type. Mirror—is 6" in diameter with Victor Mounting. Finish—All black or black and nickel. Diameter—8", prop centers 7 1/2".

No. 400 without bracket.

No. 400F with bracket.



No. 400 Gas Headlamps without Brackets.
List Price, per pair.....\$9.00

No. 400F Gas Headlamps with Brackets.
List Price, per pair.....\$11.00

ELECTRIC SIDE LAMPS Nos. 370-372

(No. 372 Illustrated)

Body — drawn from one-piece of steel, finished with two coats of black enamel baked on.

Reflector—Parabola shape, attached to hinged door, permitting light to be thrown downward at any angle, making it useful also as a trouble lamp. Bulb — 4 C.P., 6-8 V. Double circuit. Diameter—4 1/2 inch. Prop fits side oil bracket on Ford Cars.



No. 372 Electric Side Lamps. List Price, per pair \$5.50
No. 370 Electric Side Lamps, Exactly Similar to No. 372, Illustrated, But Equipped with Side Prop for flat Bracket. List Price, per pair.....\$5.50

ELECTRIC TAIL LAMP No. 49-D Victor

Three inch diameter removable semaphore. Double or single contact with plug and cap. On and off connector. G-6 bulb, 2-C.P. 6-8 volt. Has two 1/4" bolts to permit its being fastened to special bracket. Pyralin window can be set for use on either side or bottom.



No. 49-D Electric Tail Lamp. List Price.....\$1.10

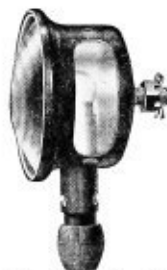
ELECTRIC TAIL LAMP No. 361 Victor



Three inches in diameter removable semaphore. Double or single contact with plug and cap. On and off connector. Prop—round and flat type. G-6 bulb. 2C.P. 6-8 volt.

No. 361 Electric Tail Lamps. List Price.....\$1.10

ELECTRIC TAIL LAMP No. 49-J Victor



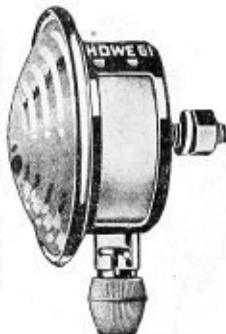
Three inch diameter semaphore. Double or single contact with plug and cap. On and off connector. Prop special bolt type for Ford cars. G-6 bulb. 2-C.P. 6-8 volt.

No. 49-J Electric Tail Lamps. List Price.....\$1.00

ELECTRIC TAIL LAMPS Nos. 50 and 51 Howe

These lamps are identical in construction excepting that the No. 50 is equipped with a combination holder to fit either round or flat prop, while the No. 51 Tail Lamp is equipped with bolt and nut (as illustrated) for use on Ford Cars later than 1915.

Equipped with 3" ruby semaphore lens and 2 C.P. 6-8 V. Mazda Lamp, double contact unless otherwise specified.



No. 50 Electric Tail Lamp. List Price, Each.....\$1.10

No. 51 Electric Tail Lamp for Fords.
List Price, Each.....\$1.10

COMBINATION TAIL LAMP AND LICENSE BRACKET

No. 364 Victor



Three inch removable semaphore. Prop — for round or flat bracket. On and off connector. Double or single contact, with plug and cap. G-6 bulb. 2-C. P. 6-8 volt. Special license bracket.

No. 364 Tail Lamps and License Bracket.

List Price\$1.50

DIETZ MONITOR SIDE LAMP

Burns Kerosene



Made with inside fount preventing loss of burner through jarring loose. Made of cold rolled steel neatly finished in black enamel and equipped with 4 1/4 inch optical clear lens. Combination sockets for two round and flat forked brackets. Height over all 9 3/4 inch. Width between socket centers 5 3/8 inches.

Dietz Monitor Side Lamp. List Price, per pair, \$13.30

OIL SIDE LAMP

No. 442



Round Side Oil Lamp for medium size trucks.

Body—of one-piece with parts securely riveted or seamed. No solder used. Lining—separate and polished, acts as reflector. Door—4 5/8". Height 9 1/4". Prop— for round or flat bracket.

No. 442 Oil Side Lamp. List Price, per pair.....\$5.00

DIETZ CONVOY SIDE LAMP



Made with inside fount preventing loss of burner through jarring loose. Made of cold rolled steel finished in black enamel. Furnished with combination socket taking round or flat bracket. Height over all 8 3/4 inches; diameter 4 inches. Equipped with 3 1/2 inch optical lens.

Dietz Convoy Side Lamp. List Price, per pair, \$8.75

DIETZ MONITOR TAIL LAMP



Made with inside fount preventing loss of burner through jarring. A sturdy truck tail lamp made of cold rolled steel, finish in black enamel. Equipped with 3 inch ruby semaphore and white lens. Furnished with combination socket taking round or flat bracket. Will not injure or blow out. Height 9 3/4 inches; diameter 5 1/2 inches.

Dietz Monitor Tail Lamp. List Price, Each.....\$5.90

DIETZ CONVOY TAIL LAMP



Made with inside fount preventing loss of burner through jarring. Will not blow or jar out. Made of cold rolled steel finished in neat black enamel. Equipped with 7 C.P., burner and 3 1/2 inch ruby semaphore and clear lens. Furnished with combination socket for round or flat brackets. Height over all 8 3/4 inches; width through body 4 inches.

Dietz Convoy Tail Lamp. List Price, Each.....\$4.85

OIL TAIL LAMP

No. 443



Round Oil Tail Lamp
for medium size
trucks.

Body—of one-piece
with parts securely
riveted or seamed. No
solder used. Lining—
separate and polished,
acts as reflector.
Door—4 5/8". Height
9 1/4". Prop—for round
or flat bracket.

No. 443 Oil Tail Lamp. List Price, Each.....\$2.50

OIL SIDE LAMP

No. 440

Round Side Oil Lamp (for
1915-19 Ford Cars).

Body — of one-piece
with parts securely rivet-
ed or seamed. No solder
used. Lining — separate
and polished, acts as re-
flector. Burner—Standard
Ford. Door—4 5/8", Height
9 1/4". Prop—regular Ford
Style.



No. 440 Oil Side Lamps. List Price, per pair.....\$4.75

OIL TAIL LAMP

No. 441

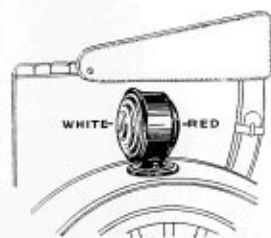
Round Oil Tail Lamp (for
1915-19 Ford Cars).

Body—of one-piece
with parts securely rivet-
ed or seamed. No solder
used. Lining — separate
and polished. Burner —
Standard Ford. Door —
4 5/8". Height 9 1/4". Prop—
regular Ford Style.



No. 441 Oil Tail Lamp. List Price, Each.....\$2.50

SMITH PARKING LIGHT



Attach this neat little
lamp to your front or
rear LEFT fender, and
turn off your headlights
and tail lamp. Burns
very little current, yet
complies with all laws
when car is not mov-
ing. 2 1/2" Semaphore
lenses—white in front,
red in rear. 6-Volt, D.
C. bulb.

Smith Parking Light. List Price.....\$2.00

DIETZ EUREKA PARKING

Burns Kerosene



Made with inside fount, prevent-
ing loss of burner through jarring.
A small practical parking lamp.
7 1/4" high. Equipped with socket
for attachment to round or flat
bracket. Bail permits its use as
hand lantern. Finished in black
enamel with nickel plated door
rim; 3 1/4" clear and 2 1/4" ruby lens.

Note.—In ordering specify wheth-
er clear or optical lens is desired.

Dietz Eureka Parking Lamp, with Optical Lens.
List Price, Each.....\$2.65

Dietz Eureka Parking Lamp, with Clear Lens.
List Price, Each.....2.35

LAMP REPAIR PARTS

For 1915 to 1920 Fords



No. 6599X Font
No. 6460X Burner
Oil Lamp Font and
Burner.

Nos. 6956X and 6957X

Side and Tail Oil Door.

Will fit Ford type of
oil side and tail lamps.

Lead coated to pre-
vent rust. Will fit Gen-
uine Ford type of side
and tail oil lamps.

No.	List Price
6957X Tail Door Red Lens.....	\$.60
6956X Side Door White Lens.....	.55
6599X Oil Font Only.....	.60
6460X Burner and Wick Only.....	.30



No. 6585X
Single Bulb Electric
Head Lamp Reflectors.

No. 6594X
Electric Head Lamp
Door.

Will fit standard Ford
head lamps. 1915-1920.

Will fit all standard
Ford head lamps. 1915-
1920.

No.	List Price
6585X Single Bulb Reflector.....	\$1.20
6585BX Double Bulb Reflector.....	1.60
6594X Electric Head Lamp Door With Glass.....	.80

Adlake Truck Lamps

The Adlake Line of Truck Lamps was put on the market to meet the demand for a lamp which would withstand the severe conditions imposed upon them in truck service. The bodies are made of steel and the lamps are constructed with the Adlake Balanced Draft Ventilation which insures proper burning and a clear lens under all weather conditions. Being fitted with Long-time Burners, they will burn twenty to twenty-four hours with one filling of the oil fount. This fount is contained within the lamps, thus preventing the loss of this part, as is the case with drop bottom lamps. The Adlake lamps are used as standard equipment by most of the prominent truck manufacturers.

NOTE.—Adlake Oil Lamps excepting Nos. 4461 and 4462 may be equipped with electrical attachment at a small additional cost. Attachment is inserted through small peep hole in lamp and secured by lock nut.

In ordering specify whether single or double contact.
 No. 4426 Single Contact Attachment without bulb. List Price, Each.....\$1.00
 No. 4427 Double Contact Attachment without bulb. List Price, Each.....1.00

ADLAKE SIDE LAMP

Model 4441



Fitted with 4" clear semaphore lens in front and 2 1/4" clear glass in door on side. Equipped with combination round and flat bracket socket for single support. Height over all 8 3/8".

No. 4441 Adlake Oil Side Lamp. List Price, per pair\$8.50

ADLAKE SIDE LAMP

Model 4434

This Side Lamp is fitted with a 4-inch clear semaphore lens. Height of lamp 9 1/2 inches. It can be carried on either single or double support bracket, being provided with combination round and flat bracket sockets, 5 1/2 inch centers. Lamps can also be supplied, when specified, with bracket sockets having round holes, 6-inch centers.



No. 4434 Adlake Oil Side Lamps. List Price, per pair\$12.25

ADLAKE SIDE LAMP

Model 4435



This side Lamp is fitted with a 5-inch clear semaphore lens. Height of lamp 10 5/8 inches. It is arranged to be carried on double support fork bracket being provided with combination round and flat bracket sockets, 6-inch centers.

No. 4435 Adlake Oil Side Lamps. List Price, per pair\$15.75

ADLAKE TAIL LAMP

Model 4442



Fitted with a 3 1/2" clear and ruby lens. Made with a combination round and flat bracket socket. Height over all 8 3/8". Especially adapted for small trucks.

No. 4442 Adlake Oil Tail Lamp. List Price, Each \$4.50

ADLAKE TAIL LAMP

Model 4462—For Fords

Similar to Model 4442 but equipped with bolt-on attachment. For use on Ford cars and trucks.
 No. 4462 Adlake Oil Tail Lamp. List Price, Each \$4.50

ADLAKE SIDE LAMP

Model 4461—For Ford Cars



Similar to No. 4441 but arranged with bolt-on attachment for use on Ford cars.

No. 4461 Adlake Oil Side Lamp. List Price, per pair\$8.60

ADLAKE TAIL LAMP

Model 4438

Tail lamp is fitted with both a 3 1/2 inch clear and ruby lens. Height of lamp 9 1/2 inches. Diameter of body 4 5/8 inches. Provided with a combination round and flat bracket socket.



No. 4438 Adlake Oil Tail Lamp. List Price, Each \$6.85

ALCO BURNERS



Made of best quality lava and will give excellent service. No. 100 is a good quality competition burner, while No. 12 is the best acetylene Gas Burner made. In ordering specify whether $\frac{1}{2}$ in., or $\frac{3}{4}$ in. or 1 ft. Burner is desired.

No. 100 Alco Burner. List Price, Each.....\$.25
No. 12 Alco Burner. List Price, Each..... .30

PREST-O-LITE UNION



Fits all Prest-O-Lite Tanks.

List Price, Each.....\$.55

GAS TUBING NIPPLES



No. 5



No. 6

Made of solid brass with sections brazed. Inside diameter $\frac{1}{4}$ in. Copper tubing may be soldered inside nipple if desired.

No. 5 Gas Tubing Nipple. List Price, Each.....\$.18
No. 6 Gas Tubing Nipple. List Price, Each..... .20

GAS TANK BRACKETS



A-507



No. A-507 fits "B" or "E" Presto Lite Tanks. List Price, per pair.....\$2.00

No. A-768. A crescent shaped band fitting "B" or "E" Prest-O-Lite Tanks. Principally used on trucks.

List Price, per pair.....\$1.75

GAS TANK WRENCH



As shown in illustration made of pressed steel.
List Price, Each.....\$.05

PREST-O-LITE GAS TANKS



Style "A" 22 in. long x $7\frac{1}{4}$ in. diameter. Capacity 70 cubic ft. Weight 45 lbs.

List Price, Each.....\$25.00

Style "B", 26 in. long x 6 in. diameter. Capacity 40 cubic ft. Weight 30 lbs.

List Price, Each.....\$18.00

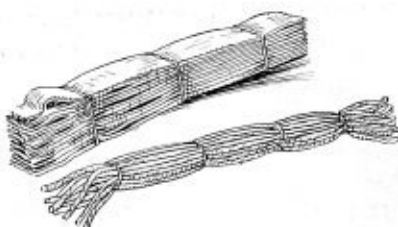
Style "E", 16 in. long x 6 in. diameter. Capacity 30 cubic ft. Weight 30 lbs.

List Price, Each.....\$15.00

Style "MC", for motorcycles, 13 $\frac{1}{2}$ in. long x 4 in. diameter. Capacity 10 cubic ft. Weight 10 lbs.

List Price, Each.....\$10.00

LAMP WICKS



Made in two styles, flat and round. Packed 12 in bundle, 12 bundles or one gross in carton.

$\frac{3}{8}$ Flat Lamp Wicks. List Price, per dozen.....\$.15

$\frac{1}{2}$ Flat Lamp Wicks. List Price, per dozen..... .30

$\frac{1}{4}$ Round Lamp Wicks. List Price, per dozen..... .50

DASH AND TROUBLE LAMPS

CULVER-STEARN'S BULLDOG DASH
LAMP

A small, sturdy Dash lamp designed for use with instrument board regularly furnished on many cars. Single or double contact optional. Double contact can be equipped with self-contained switch if desired. Regularly furnished with 2 c. p. Mazda bulb.

List Price \$1.10

CULVER-STEARN'S DASH LAMP
Model "G"

Designed for use on a metal dash, or on flush type instrument board. Opening in shade is $\frac{3}{4}$ inch from face of dash. Equipped with 2 c. p. Mazda lamp, any voltage. Single or double contact optional.

List Price \$.75

CULVER-STEARN'S DASH LAMP
Model "G-179"

A very short and compact lamp that is standard equipment on Maxwell and other cars. Regularly furnished with 2 c. p. Mazda lamp, any voltage. Single or double contact optional. This lamp is not made with self-contained switch.

List Price \$1.00

"TU-WAY" COMBINATION DASH
LAMP AND PLUG SOCKET

A novel type of Dash Lamp which is made with a socket for attaching plug to trouble lamp, cigar lighter, etc., without interfering with the light of Dash Lamp. Made of brass, polished, nickel plated and equipped with 2 c. p. Mazda Bulb. May be attached to wood or metal dash.

List Price, Each \$2.50

CULVER-STEARN'S DASH LAMP
Model "G-198"

A very handsome Dash lamp made for use on metal dash. Short in length, measuring $1\frac{3}{4}$ inches from center of opening in shade of dash. Equipped with self-contained switch, single contact only, and a 2 c. p. Mazda lamp.

List Price \$1.00

CULVER-STEARN'S DASH LAMP
Model "E"

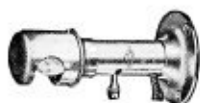
A high-grade medium-priced Dash lamp equipped with self-contained switch. Made with a straight shank and measures $2\frac{1}{2}$ inches from face of flange to center of opening in shade. Equipped with 2 c. p. Mazda bulb. Voltage optional. Single or double contact if desired.

List Price \$1.00

CULVER-STEARN'S DASH LAMP
Model "S"

Intended particularly for use on a wood dash. The center of opening in the shade is $\frac{3}{8}$ in. from dash, making a very compact lamp. Regularly furnished with 2 c. p. Mazda bulb, any voltage. Single or double contact optional.

List Price \$.75

CULVER-STEARN'S DASH LAMP**Model "J"**

A specially designed lamp for use on Ford cars. Is exactly the right length to give the proper illumination on speedometer, etc., and its neat appearance adds to the looks of the Ford dashboard.

Equipped with self-contained switch and 2 c. p. Mazda lamp, voltage optional. Double contact.

List Price \$1.10

SMITH TROUBLE LAMP**Model "31"**

Consists of black enameled outer shell with silver plated brass inner reflector and 6-volt 6 c. p. Mazda lamp and 10 ft. duplex cable with terminal attached.

List Price \$2.50

CONNECTICUT TROUBLE LAMP**Models "R-W," "S-W"**

Exactly as shown in illustration. Equipped with removable wire lamp guard and rubberoid handle with 10 ft. black rubber duplex cord with attachment plug. Prices do not include bulbs.

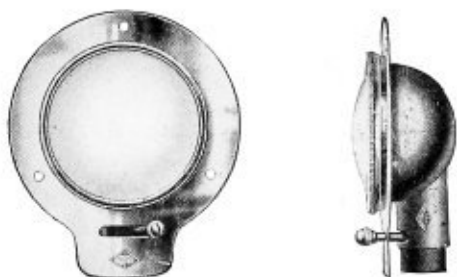
No. 0141—Model "R-W" Trouble Lamp, Single Contact (without bulb).....List Price \$1.50

No. 1031—Model "S-W" Trouble Lamp, Single Contact (without bulb).....List Price \$1.50

CULVER-STEARN'S TROUBLE LAMP**Model "C"**

A wire lamp guard makes it especially useful for roadside repairs, etc. Equipped with a self-contained switch and 6 c. p. Mazda bulb with 10 ft. lamp cord. Regularly furnished with double contact plug; single contact optional.

List Price \$1.85

CULVER-STEARN'S TONNEAU LAMP**Model "G-239"****CULVER-STEARN'S COMBINATION LAMP****Model "D"**

A beautiful dash lamp that may instantly be converted into a thoroughly practical trouble lamp by simply disconnecting socket from dash. Cannot jar loose from vibration. Furnished complete with 10 ft. extension cord and 2 c. p. Mazda bulb. Furnished with either single or double contact.

List Price \$2.50

A beautiful little lamp for use in tonneau of limousines or other large cars. Equipped with self-contained switch and double frosted lens. Regularly furnished with 2 c. p. Mazda lamp. Single or double contact optional.

List Price \$2.00

Connectors, Lamps, Sockets, Plugs, Receptacles

These Connectors, etc., are all interchangeable with other Sockets, Plugs, Receptacles, etc., of standard manufacture. Made of black rubber material with brass inserts, the proper tension being furnished by strong brass music-wire springs. Outside diameter of all Connectors, Sockets, etc., $\frac{5}{8}$ inch. Made with double or single contact for double or single wiring.

In ordering be sure to specify whether Single or Double Contact.



No. 41 Receptacle.—For use on wood dash and made with drawn brass flange.

No. 41 Receptacle. List Price, Each.....\$.35



No. 7 Receptacle.—Equipped with soldered flange for use where flush type connector is not desirable.

No. 7 Receptacle. List Price, Each.....\$.35



No. 31 Receptacle.—For use in lamp construction and well adapted for breaking a line.

No. 31 Receptacle only. List Price, Each.....\$.20



No. 31-T Receptacle.—Similar to No. 31 Receptacle. Equipped with metal bracket for headlight connection, etc.

No. 31-T Receptacle only. List Price, Each.....\$.35



No. 32 Plug. List Price, Each, \$.15



No. 411 Receptacle.—A flange connector, threaded and equipped with lock-nut, for use on metal dash, etc.

No. 411 Receptacle only. List Price, Each.....\$.35



No. 77 Metal Plug with Cap. Equally adapted for armored or unarmored cable. Threads will not strip as rubber part is not threaded.

No. 77 Separable Metal Plug. List Price, Each.....\$.40



No. 55 Capped Plug.—Made of hard rubber, with screw cap.

No. 55 Capped Plug. List Price, Each.....\$.25



No. 321-C Plug.—Especially useful, enabling the use of a trouble lamp on single wire system. Made with two terminals to take extension cord, one terminal direct connected with center contact bent through terminal grounded to metal sleeve.

No. 321-C Plug. List Price, Each.....\$.30



No. 32-C Plug.—Very similar to No. 32, but threaded and equipped with molded composition. Cap made with an internal shoulder, preventing breakage of cap by being screwed too tight.

No. 32-C Plug. List Price, Each.....\$.18



No. 32-CP Plug.—Similar to No. 32-C Plug, but equipped with plunger inserts for use in short socket tubes. Terminals of bulb rest directly against the plungers.

No. 32-CP Plug. List Price, Each.....\$.25



No. G-96 Plug.—A duplicate of No. 32-CP Plug, but made with longer inserts.

No. G-96 Plug. List Price, Each.....\$.25

SPECIAL PLUGS AND SOCKETS



Elbow Plug for Fords.—Similar to plug furnished as standard equipment on new Ford electric head lamps. Double contact only and equipped with set screws, enabling its attachment without soldering.

Elbow Plug for Fords. List Price, Each.....\$.35

No. G-156 Plug.—Standard equipment on 1915 Maxwells. Single contact. Angle type.

No. G-156 Plug. List Price, Each.....\$.30



No. G-117 Plug.—Standard equipment for tail lights on 1915 Overland cars. Single contact. Angle type.

No. G-117 Plug. List Price, Each.....\$.30



No. G-153 Plug.—Standard tail lamp equipment on 1915 Maxwell cars. Single contact. Angle type.

No. G-153 Plug. List Price, Each.....\$.30



No. G-118 Plug.—Standard equipment on 1915 Overland cars. Double contact. Angle type.

No. G-118 Plug. List Price, Each.....\$.30



No. 451 Socket for Fords.—For use in headlamps.

No. 451 Socket for Fords. List Price, Each.....\$.25

No. 1663 Lamp Socket for Overland Headlamps. List Price, Each.....\$.25

No. 1664 Lamp Socket for Maxwell Headlamps. List Price, Each.....\$.25

CONNECTORS, LAMPS, SOCKETS, PLUGS, RECEPTACLES

These Connectors, etc., are all interchangeable with other Sockets, Plugs, Receptacles, etc., of standard manufacture. Made of black rubber material with brass inserts, the proper tension being furnished by strong brass music-wire springs. Outside diameter of all Connectors, Sockets, etc., $\frac{5}{8}$ inch. Made with double or single contact for double or single wiring.

In ordering be sure to specify whether Single or Double Contact.



No. 104 Socket. List Price, Each.....\$.20



No. 5 Socket. List Price, Each.....\$.20

No. 6 Socket is similar to No. 5, excepting that it has soldered terminals. Bayonet lock.

No. 6 Socket. List Price, Each.....\$.20



No. 15 S Socket. List Price, Each.....\$.20



No. 115 Socket. List Price, Each.....\$.25



No. 105 Socket. List Price, Each.....\$.35



No. 17 Socket, with No. 55 Plug. List Price, Ea. \$.60



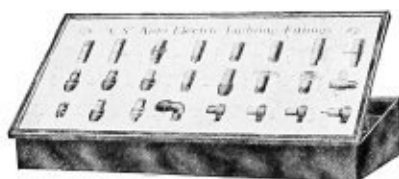
No. G-186 Socket. List Price, Each.....\$.20



No. 31-CR Socket. List Price, Each.....\$.25

DISPLAY CABINET

Connectors, Sockets, Plugs, Receptacles



This handsome lithographed metal cabinet makes an ideal "silent salesman" in the accessory store or garage. Provides a separate compartment for each type of fitting, with illustrations on the cover showing contents. Stock numbers and selling prices are shown, preventing the confusion which frequently occurs in handling a line of this kind. This assortment contains a complete line of fittings for practically every make of car. Assortment includes:

6 No. 32 Plugs	\$.15	\$.90
10 No. 32-C Plugs	.18	1.80
10 No. 321-C Plugs	.30	3.00
4 No. 55 Plugs	.25	1.00
4 No. 77 Plugs	.40	1.20
5 No. 32 C. P. Plugs.....	.25	1.25
10 Elbow Plugs	.35	3.50
3 Angle Plugs, G-117.....	.30	.90
3 Angle Plugs, G-118.....	.30	.90
3 Angle Plugs, G-153.....	.30	.90
3 Angle Plugs, G-156.....	.30	.90
4 No. 31 Receptacle	.20	.80
10 No. 31 C. R.	.25	2.50
9 No. 41 Receptacle	.35	4.15
4 No. 411 Receptacle	.35	1.40
3 No. 31-T Receptacle	.35	1.05
4 No. 17 Receptacle	.35	1.40
4 No. 451 Sockets	.25	1.00
6 No. 104 Receptacle	.20	1.20
4 No. G-232 Socket	.30	1.20
3 No. G-232-S Sockets.....	.40	1.20
3 No. 105 Receptacle	.35	1.05
5 No. 15-S Sockets	.20	1.00
10 No. 5 Sockets	.20	2.00
10 Caps	.05	.50

Display Cabinet, complete with Fittings as illustrated. List Price.....\$40.00



Buckeye Mazda Automobile Lamps

In ordering be sure to give Mazda number, specify candle power rating, and style of base. Lamps that differ in any respect from Standard ratings or type of base, voltage, etc., should be ordered by giving complete specifications.

All Mazda type B lamps have tungsten filament, vacuum type. All Mazda type C lamps have tungsten filament and nitrogen gas-filled bulbs.



G-6 Bulb
Meter Lamp



G-12 and 8-11 Bulb
Headlight and Spotlight
Lamp



G-8 Bulb
Side Lamp

Fitted with either single contact (S. C.) or double contact (D. C.) bayonet candelabra bases.
Order Lamps by MAZDA Numbers

MAZDA Number	Bayonet Candelabra Base	Ratings Appearing on Lamps		Bulb	Unit Pkg. Qty.	List Price Clear
		Volts	Candle-Power			
MAZDA B LAMPS						
FOR REAR AND SPEEDOMETER LIGHTS						
(2 in Series, each lamp 3-4 Volts)						
Mazda-61	S.C.	3-4	2	G-6	10	\$.28
Mazda-62	D.C.	3-4	2	G-6	10	\$.28

MAZDA B LAMPS						
FOR REAR AND SPEEDOMETER LIGHTS						
Mazda-63	S.C.	6-8	2	G-6	10	\$.98
Mazda-64	D.C.	6-8	2	G-6	10	\$.98

MAZDA B LAMPS						
FOR SIDE AND AUXILIARY HEADLIGHTS						
Mazda-81	S.C.	6-8	4	G-8	10	\$.32
Mazda-82	D.C.	6-8	4	G-8	10	\$.32

MAZDA B LAMPS						
FOR HEADLIGHTS AND SPOTLIGHTS						
Mazda-1125	S.C.	6-8	15	*8-11	10	\$.50
Mazda-1126	D.C.	6-8	15	G-12	10	\$.50
Mazda-125	S.C.	6-8	15	G-12	10	\$.50
Mazda-126	D.C.	6-8	15	G-12	10	\$.50

MAZDA C LAMPS						
FOR HEADLIGHTS AND SPOTLIGHTS						
Mazda-1129	S.C.	6-8	21	*8-11	10	\$.52
Mazda-1130	D.C.	6-8	21	G-12	10	\$.52
Mazda-129	S.C.	6-8	21	G-12	10	\$.52
Mazda-130	D.C.	6-8	21	G-12	10	\$.52
Mazda-1131	S.C.	6-8	27	*8-11	10	\$.65
Mazda-1132	D.C.	6-8	27	G-12	10	\$.65
Mazda-131	S.C.	6-8	27	G-12	10	\$.65
Mazda-132	D.C.	6-8	27	G-12	10	\$.65
Mazda-1133	S.C.	6-8	32	*8-11	10	\$.75
Mazda-1134	D.C.	6-8	32	G-12	10	\$.75
Mazda-133	S.C.	6-8	32	G-12	10	\$.75
Mazda-134	D.C.	6-8	32	G-12	10	\$.75

9-Volt lamps, to be burned two in series on magneto lighting system. Fitted with double contact (D. C.) bayonet candelabra base.

MAZDA B LAMP FOR FORD HEADLIGHTS						
Mazda-1135	D.C.	9	18	*8-11	10	\$.50
Mazda-1136	D.C.	9	18	G-12	10	\$.50

MAZDA C LAMP FOR FORD HEADLIGHTS						
Mazda-1138	D.C.	9	27	*8-11	10	\$.52
Mazda-1139	D.C.	9	27	G-12	10	\$.52

* The 8-11 bulb is interchangeable with and will supersede the G-12 bulb.

† For use two in series on 12-16 volt systems, MAZDA Nos. 63 and 64 are customarily employed.

MAZDA Number	Bayonet Cande- labra Base	Ratings Appearing on Lamps		Bulb	Unit Pkg. Qty.	List Price Clear
		Volts	Candle- Power			
MAZDA B LAMPS						
↑ FOR REAR AND SPEEDOMETER LIGHTS						
Mazda-67	S.C.	12-16	2	G-6	10	\$.30
Mazda-68	D.C.	12-16	2	G-6	10	\$.30

MAZDA B LAMPS						
FOR SIDE AND AUXILIARY HEADLIGHTS						
Mazda-89	S.C.	12-16	4	G-8	10	\$.35
Mazda-90	D.C.	12-16	4	G-8	10	\$.35

MAZDA B LAMPS						
FOR HEADLIGHTS AND SPOTLIGHTS						
Mazda-1139	S.C.	12-16	15	*8-11	10	\$.53
Mazda-1140	D.C.	12-16	15	G-12	10	\$.53
Mazda-1141	S.C.	12-16	15	G-12	10	\$.53
Mazda-1142	D.C.	12-16	15	G-12	10	\$.53

MAZDA C LAMPS						
FOR HEADLIGHTS AND SPOTLIGHTS						
Mazda-1141	S.C.	12-16	21	*8-11	10	\$.53
Mazda-1142	D.C.	12-16	21	G-12	10	\$.53
Mazda-1143	S.C.	12-16	21	G-12	10	\$.53
Mazda-1144	D.C.	12-16	21	G-12	10	\$.53
Mazda-1145	S.C.	12-16	27	*8-11	10	\$.65
Mazda-1146	D.C.	12-16	27	G-12	10	\$.65
Mazda-1147	S.C.	12-16	27	G-12	10	\$.65
Mazda-1148	D.C.	12-16	27	G-12	10	\$.65
Mazda-1149	S.C.	12-16	32	*8-11	10	\$.80
Mazda-1150	D.C.	12-16	32	G-12	10	\$.80
Mazda-1151	S.C.	12-16	32	G-12	10	\$.80
Mazda-1152	D.C.	12-16	32	G-12	10	\$.80

6-8 Volt lamps, for cars equipped with 3-cell (lead type) storage battery-generator lighting system. Fitted with single contact (S.C.) bayonet candelabra base.

MAZDA B LAMP FOR FORD REAR AND AUXILIARY HEADLIGHTS						
Mazda-43	S.C.	6-8	2	G-6	10	\$.28

MAZDA B LAMP FOR FORD HEADLIGHTS						
Mazda-1125	S.C.	6-8	15	*8-11	10	\$.50
Mazda-1126	D.C.	6-8	15	G-12	10	\$.50

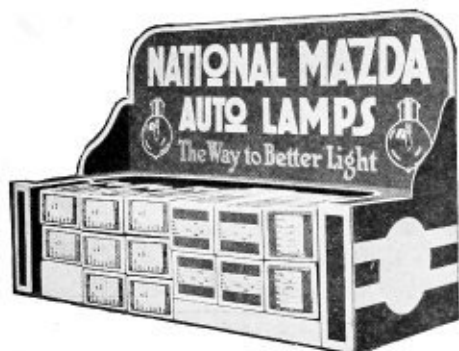
MAZDA C LAMP FOR FORD HEADLIGHTS						
Mazda-1129	S.C.	6-8	21	*8-11	10	\$.52
Mazda-1130	D.C.	6-8	21	G-12	10	\$.52

If you sell or believe you can sell \$500.00 worth of Mazda Auto Lamps in one year, ask for our rebate contract which does not obligate you to buy any special number of miniature lamps, but entitles you to a cash rebate if you sell \$500.00 List or more in one year's time.

Buckeye Mazda Lamps

If you sell or believe you can sell \$500.00 worth of Mazda Miniature Lamps in one year, ask for our Rebate Contract, which does not obligate you to buy any special number of miniature lamps, but entitles you to a Cash Rebate if you sell \$500.00 List or more in one year's time.

DEALERS STOCK OF 100 SELECTED BUCKEYE MAZDA AUTO LAMPS



A handsome lithographed cardboard cabinet containing a stock of 100 Buckeye Mazda Auto Lamps, making a compact, attractive, counter display container from which any desired lamp may be quickly selected. Contains a sufficiently varied assortment to fit 90 per cent of the automobiles now in use. Includes Mazda C nitrogen gas-filled Lamps and the proper sizes for Ford cars.

Each cabinet supplied with Lamp Bulb guide, giving the correct lamps for all cars.

List Value of Lamps.....\$38.55

BUCKEYE MAZDA AUTO LAMP KIT



Just the thing for the car owner. A strong cardboard box with spaces for carrying 2 headlight bulbs, 2 sidelight bulbs, rear, and instrument bulbs—6 spaces in all. Absolutely protects lamps from breakage. Sold without lamps.

Buckeye Mazda Auto Lamp Kit, without Lamps.
List Price, Each.....\$.25

DEALERS STOCK OF 100 BUCKEYE MAZDA FLASHLIGHT LAMPS



The most convenient way to handle flashlight bulbs. Conveniently arranged with table, showing the proper sized lamp for use with all flashlights. Enables the dealer to eliminate lamp breakage, and at the same time have his stock always available and well shown.

This handsome cardboard display container free with 100 Buckeye Mazda Flashlight Lamps.

List Price.....\$20.00

BUCKEYE MAZDA FLASHLIGHT LAMPS

For use with all flashlights.

In ordering, refer to table showing sizes for use with different types of flashlights.



G5½



FE13¾

Price Subject to Change Without Notice.

MAZDA Number	Base	Volts	Bulb	Unit Pkg. Carton Quantity	List Price
Mazda 1	Min.	2.5	FE3¾	10	\$.20
Mazda 2	Min.	3.8	FE3¾	10	.20
Mazda 11	Min.	2.7	G-3½	10	.20
Mazda 16	Min.	2.9	G-4½	10	.20
Mazda 17	Min.	3.8	E-4½	10	.20
Mazda 31	Min.	6.2	G-5½	10	.20

For Standard Dry Battery Service

Mazda 19	Min.	1.35	G-4½	10	\$.20
Mazda 33	Min.	1.35	G-5½	10	.20
Mazda 35	Min.	2.7-3.0	G-5½	10	.20

- * Mazda 1—For 2 cell case type battery.
- * Mazda 2—For 3 cell case or tubular type battery.
- * Mazda 11—For 2 cell tubular type battery.
- * Mazda 16—For 2 cell tubular type battery.
- * Mazda 17—For 3 cell case or tubular type battery.
- * Mazda 31—For 5 cell tubular type battery.
- * Mazda 19—For 1 cell standard dry battery.
- * Mazda 33—For 1 cell standard dry battery.
- * Mazda 35—For 2 cell standard dry battery.

RAJAH TERMINALS



Rajah Clip Terminals are made of the highest quality spring brass, making a dependable rigid clip connection. Used as standard equipment on a large number of the leading cars. Rajah thumb-nut and stud, Packard and Franklin ball clip terminals are adaptors for using Rajah plugs without changing terminals. The thumb-nut always provides a clip connection for the spark plugs on Fords and other cars using "eye" terminals. The Rajah regular Clip Terminal is for quick attachment to any size cable. Collars are furnished with Clip Terminals to use with any plug.

Rajah Ferrule Clip Terminal in following sizes:

No. 6	.515	1/2" cable
No. 8	.387	3/8" cable
No. 9	.340	21/64" cable
No. 10a	.300	19/64" cable
	.257	3/4" cable

Rajah Primary Terminal in following sizes:

No. 1 Drill	.228	15/64" cable
No. 5 Drill	.205	13/64" cable
No. 12 Drill	.189	3/16" cable

Rajah Clip Terminals, any style.

List Price, per dozen.....\$1.20

Rajah Primary Terminals. List Price, per dozen .84

RAJAH TERMINAL ASSORTMENT



Consist of 118 Rajah Terminals, 98 clip and 20 primary in the most popular styles and sizes. Particularly valuable for garages, dealers, and repair shops, as it not only provides a separate compartment for each style or size clip, but makes an effective display in the dealer's show-case.

Assortment includes hinged top wooden box with diagram explaining sizes and showing proper retail price, etc.

Rajah Terminal Asst. List Price, Complete.....\$11.50

COPPER TERMINALS



Made of high grade copper in all sizes. Attached by means of inserting wire through hole and compressing terminal around wire.

Carried in four sizes.

Packed 100 of one size in box.

No. 1 Copper Terminals for small primary wiring, less than 1/8" diameter.

List Price per 100.....\$.87 1/2

No. 2 Copper Terminals for standard size primary wiring, 1/8" to 3/16" diameter.

List Price per 100.....1.25

No. 3 Copper Terminals, suitable for small secondary or high tension wiring fabric or rubber covered, 3/16" to 5/16" diameter.

List Price per 100.....1.90

No. 4 Copper Terminals, for large high tension or secondary wiring, 5/16" to 1/2" diameter.

List Price per 100.....2.65

STAMPED BRASS TERMINALS

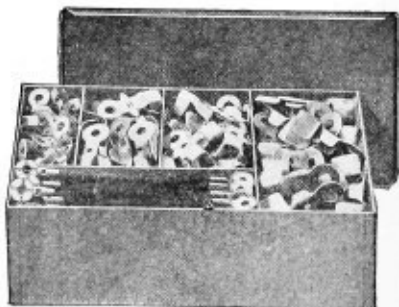


A one-piece brass stamped terminal, fitting all spark plugs. Wire is attached to terminal by soldering into the hole inside ferrule. Inside diameters, inches, .19, .235, .310, .325, .400, .475. Packed 100 of one size in box.

Stamped Brass Terminals, any Size.

List Price per 100.....\$3.75

GARAGE ASSORTMENTS COPPER TERMINALS AND BATTERY CONNECTORS



ASSORTMENT No. 1. Consists of 50 each Nos. 1, 2, 2 1/2, and 3 copper terminals fitting 7/32, 5/16, and 1/4" cable and 15 standard battery connectors. Packed in wooden box.

Assortment No. 1. List Price.....\$3.00

POPULAR TERMINAL ASSORTMENT

Contains 72 terminals. Assortment consists of 62 terminals for primary and secondary wirings, 4 for 1/8" cable, 3 for 1/2" cable, and 3 for ground connection.

Popular Terminal Assortment. List Price \$1.75

STANDARD BATTERY CONNECTORS



Made of flexible rubber covered wire with heavy cotton braid, and terminals are soft copper clamped and soldered to the wire. Packed in unit cartons of 100 connectors.

Standard Battery Connectors. List Price, Ea. \$0.02 1/2

PERFECTION BATTERY CONNECTORS



Consists of extra flexible rubber insulated and braided wire with terminals of spring copper, easily attachable. May be used with or without battery nuts. Packed in cartons of 100.

Perfection Battery Connectors. List Price, Ea. \$0.04

HANDY SPARK PLUG TERMINALS



Made with threaded jaws to attach to threads of spark screw. Equipped with spring, giving permanent jarproof contact. No nuts to jar loose. Attachable in one second. No solder required. Simply strip end of wire and pass through two spring contact clips. Adjustable to any size magneto cable by compression with pliers.

Hand Spark Plug Terminals. List Price, Each...\$.25

PUSH-BUTTON SWITCH



Made entirely of metal, for use with vibrators or horns. Equipped with clamp for attachment to steering column or may be used on flat surface. Finished black and nickel, or all black.

Push-Button Switch. List Price, Each...\$.40

LEVER SWITCH

Two-Point Type

Hard rubber base with nickel plated brass lever and contact button. Lever removable to prevent tampering when not in use. Small, compact.



Lever Switch, Two-Point Type. List Price, Each, \$.30

BUTTON SWITCH



For use in lighting circuits, etc. Plate fits flush with dash, requiring drilling of very small hole for insertion of barrel of switch. Finished in polished nickel plate with black rubber buttons.

Button Switch (Single). List Price, Each...\$.50

Button Switch (Double). List Price, Each... 1.00

PUSH AND PULL SWITCH

For lighting circuits, ignition, etc. Of the simplest design and rugged construction. Barrel of switch is round, enabling its insertion in a 3/8" hole. Used extensively on dash,



etc. Finished in black enamel with polished nickel plated push rod. Made in 1, 2, 3, or 4 gang.

Push and Pull Switch, (Single Button Type).

List Price\$.40

Push and Pull Switch, (2 Gang Type).

List Price80

Push and Pull Switch, (3 Gang Type).

List Price 1.20

Push and Pull Switch, (4 Gang Type).

List Price 1.60

LIGHTING SWITCH

Push and Pull Type



Simple and easily installed, strongly constructed. Made with 3/8" barrel, requiring drilling of only one hole per gang. Principally used for lighting. For attachment to dashboard. Multiple gang switches have a common bus bar for battery wires. Finished in black with nickel button. Size of mounting plate, one-point, 1 1/2" high by 1" wide; two-point, 2" high by 2-5/16" wide; three-point, 1-11/16" high by 2-13/16" wide; four-point, 2" high by 4-1/16" wide.

No. 0410 (One-Point) Lighting Switch, Push and

Pull Type. List Price, Each...\$.40

No. 0420 (Two-Point) Lighting Switch, Push and

Pull Type. List Price, Each... .80

No. 0430 (Three-Point) Lighting Switch, Push

and Pull Type. List Price, Each... 1.20

No. 0440 (Four-Point) Lighting Switch, Push and

Pull Type. List Price, Each... 1.60

Electric Cable for Automobiles



- No. D.B.P. 30 Primary Cable. Rubber insulated. Double Braided, and varnished. Diameter 15/64".
List Price, per 100 ft. \$4.60



- No. D.B.P. 31 Primary Cable. Rubber insulated. Double Braided, and varnished. Diameter 13/64".
List Price, per 100 ft. \$4.15



- No. S.B.P. 21 Primary Cable. Rubber insulated. Single Braided, and varnished. Diameter 11/64".
List Price, per 100 ft. \$3.60



- No. 78 Primary and Lighting Cable. Rubber insulated. Double Braided, and varnished. Thickness of rubber insulation 1/32". Diameter 9/32".
List Price, per 100 ft. \$7.75



- No. 86 Double Conductor Primary and Lighting Cable. Rubber insulated. Double Braided, and varnished. Two separate conductors enclosed in braids with jute filler.
List Price, per 100 ft. \$9.60



- No. V-40 Italian Magneto Cable. Size 3 M.M. Rubber insulated, and varnished. Diameter 1/8".
List Price, per 100 ft. \$2.85

- No. NV-41 Italian Magneto Cable. Size 3 M.M. Rubber insulated, not varnished. Diameter 1/8".
List Price, per 100 ft. \$2.50

- No. V-42 Italian Magneto Cable. Size 5 M.M. Rubber insulated, and varnished. Diameter 3/16".
List Price, per 100 ft. \$3.75

- No. NV-43 Italian Magneto Cable. Size 5 M.M. Rubber insulated, not varnished. Diameter 3/16".
List Price, per 100 ft. \$3.25

- No. V-44 Italian Magneto Cable. Size 7 M.M. Rubber insulated, and varnished. Diameter 1/4".
List Price, per 100 ft. \$5.75

- No. NV-45 Italian Magneto Cable. Size 7 M.M. Rubber insulated, not varnished. Diameter 1/4".
List Price, per 100 ft. \$5.00

- No. V-48 Italian Magneto Cable. Size 9 M.M. Rubber insulated and varnished. Diameter 11/32".
List Price, per 100 ft. \$8.50

- No. NV-49 Italian Magneto Cable. Size 9 M.M. Rubber insulated, not varnished. Diameter 11/32".
List Price, per 100 ft. \$7.00



- No. 38 High Tension Magneto Cable. Rubber insulated. Double Braided, and varnished. Thickness of rubber insulation 3/32". Diameter 23/64".
List Price, per 100 ft. \$13.50



- No. H.T.D. 32 Medium High Tension Cable. Rubber insulated. Double Braided, and varnished. Diameter 11/32".
List Price, per 100 ft. \$7.75

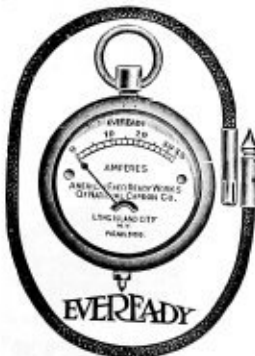


- No. 56 Starting Cable. The thin copper wires rubber insulated. Double Braided and varnished. Thickness of rubber insulation 3/64". Diameter 9/16".
List Price, per 100 ft. \$30.00

LIGHTING CABLE
Armored

Single or dual conductor lighting cable rubber insulated. Double Braided and enclosed in flexible rust-proof metal, armored.

- No. 14 Single Conductor. List Price, per 100 ft., \$ 6.00
No. 14 Double Conductor. List Price, per 100 ft., 12.00

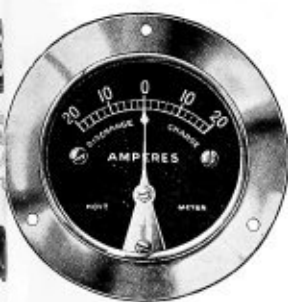
DRY BATTERY AMMETER
No. 1002

A practical, in expensive Ammeter with a range of 0 to 35 amp. Detachable terminal is included, as shown in illustration.

- No. 1002 Dry Battery Ammeter

- List Price, Each \$1.00

HOYT DASH AMMETERS



Nos. 501, 521



Nos. 175, 175F

Accurately built to withstand hard usage and guaranteed to give perfect readings under all conditions. Extra strong coil capable of heavy overloads; very light moving system, insuring long life to pivots and jewels and a practical air damping device, reducing vibration of pointer to a minimum.

Type 501. Flush mounting. Finished in black or nickel. Range, 20 amp.—0—20 amp. or 30 amp.—0—30 amp. Diameter over all, 3". Depth, 1 1/2". List Price.....\$4.00

Type 531. Panel Mounting. Finished in black or nickel. Range, 20 amp.—0—20 amp. or 30 amp.—0—30 amp. Diameter over all 3 3/8". Depth of case, 1 1/8". List Price.....4.00

Type 175. Panel Mounting. Smaller in size than Nos. 501 and 521 but accurate under all conditions. Finished in black with black dial and silver figures. Range 15 amp.—0—15 amp.; 20 amp.—0—20 amp.; 30 amp.—0—30 amp. Diameter over all, 2 3/8". Diameter of dial, 2". List Price.....3.00

Type 175. Flush Mounting. Similar to No. 175 but projects farther out from dash. List Price.....3.00

EVEREADY DASH AMMETERS



No. 1012



No. 1013

Simply and strongly constructed. Dust and water-proof. "Dead Beat" type. All pointer movement with aluminum vane moving in partial vacuum. Moving element very light and supported on hardened steel pivots. Vibration does not affect accuracy of reading. Finished in dull black enamel with black dial, in silver figures for polished nickel plate and silver dial with black figures. Range, 10 amp.—0—10 amp.; 15 amp.—0—15 amp.; 20 amp.—0—20 amp.; 30 amp.—0—30 amp.

Model 1012 Flush Type Case. Diameter 2 1/8". Flange diameter, 2 3/8".

Model 1013 Front Type. Case diameter, 2 1/8".
Eveready Dash Ammeters. List Price, Each.....\$3.50



No. 18 New Code Lamp Cord. Two flexible wires rubber insulated and covered with glazed water-proof cotton braid, then twisted together. Thickness of rubber insulation 1/32".

List Price, per 100 ft.....\$4.60

No. 22 New Code Lamp Cord. Two flexible conductors, rubber insulated and covered with glazed cotton, twisted together. Thickness of rubber insulation 1/32".

List Price, per 100 ft.....\$3.00

No. 18 Silk Covered Braided and Twisted Lamp Cord. Made of two flexible wires, rubber insulated, braided, and covered with black or green silk cover. Thickness of rubber insulation 1/32".

List Price, per 100 ft.....\$6.80

In ordering specify Color desired.



No. 18 Reinforced Portable Cord. Made up of two flexible new code lamp cords, twisted, covered with rubber insulation, then enclosed in glazed cotton water-proof braid. Thickness of rubber insulation 1/32".

List Price, per 100 ft.....\$8.35



No. 18 Brewery Cord. Two flexible wires, rubber insulated, braided, twisted together and water-proof. Rubber insulation 1/32" thick.

List Price, per 100 ft.....\$6.25



No. 18 Deck Cable. Two flexible conductors, rubber insulated, braided, twisted together with jute filler, then covered with rubber and enclosed in water-proof braid. Thickness of rubber insulation 1/32".

List Price, per 100 ft.....\$12.00



No. 18 Packing House Cord. Two flexible wires, rubber insulated, braided, twisted together with jute and enclosed together with two water-proof braids. Thickness of rubber insulation 1/32".

List Price, per 100 ft.....\$9.25

BUCKEYE MAZDA LAMPS FOR STANDARD LIGHTING SERVICE

The lamps listed constitute more than 75 per cent of the usual lamp demand for such service as residences, store and office lighting. The higher wattage sizes are used for various industrial and store lighting purposes.

If lamps of 150 watts or over are for use in other than tip down position orders should so state.



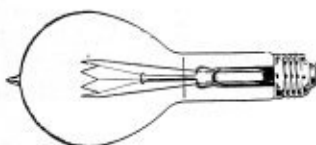
S-17 Bulb
10, 15 & 25
Watts
110 Volts



S-19 Bulb
25 & 50 Watts
Mill Type
110 Volts



**S-20 Bulb
50 Watts
110 Volts



S-25 Bulb 100 & 150 Watts
110 Volts

Mazda B Lamps for Standard Lighting Service—110 to 125 Volts

Watts	Approx. Lumens	Bulb	Max. Overall Length, Inches	Stand. Pack. Quan.	LIST PRICE	
					Clear	Frosted
REGULAR TYPE MAZDA LAMPS						
10	75	S-17	4 $\frac{3}{4}$	100	\$0.35	\$0.38
15	125					
25	226	S-19	5 $\frac{1}{4}$	100	.35	.38
40	370					
50	472	S-21	5 $\frac{1}{2}$	100	.40	.45
60	575					

MILL TYPE MAZDA LAMPS

25	210	*S-19	5 1/4	100	\$0.45	\$0.48
50	436	S-19	5 1/4	100	.45	.48

Mazda C Lamps for Standard Lighting Service—110 to 125 Volts

50	450	*S-20	5 1/2	50	\$0.65	
75	865	PS-22	6 1/2	50	.70	\$0.75
100	1260	PS-25	7 1/2	24	1.10	1.15
150	2040	PS-25	7 1/2	24	1.65	1.70
200	3100	PS-30	8 3/4	24	2.20	2.27
300	4840	PS-35	9 3/4	24	3.25	3.35
500	8750	PS-40	10	12	4.70	4.85
750	13900	PS-52	13 3/4	8	6.50	6.75
1000	19300	PS-52	13 3/4	8	7.50	7.75

CARBON LAMPS



Carbon Lamps, 110 V., 16 C. P.

List Price, Each.....\$.25

GARAGE LAMP No. 1



Consists of a black enameled wood handle with hook on handle and wire guard; 3/8" Edison key socket; separable attaching plug, and 16 c. p. 110 V. carbon lamp with 10 ft. No. 18 lamp cord.

No. 1 Garage Lamp. List Price, Each.....\$2.25

GARAGE LAMP No. 2

Very similar to No.

1 Garage Lamp, but

equipped with extra

heavy guard and brass

hook, and 3/8" Edison

key socket; black enameled wood handle separable

attachment plug 16 c. p. 110 volt carbon lamp. 10 ft.

No. 18 reinforced black extension cord.

No. 2 Garage Lamp. List Price, Each.....\$3.50



AUTOMATIC EXTENSION REEL



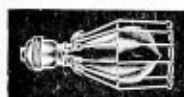
For garage lamps, electric drills, etc.

The only practical method for handling extension lamps, electric drills, etc., in the garage or repair shop. Lamp cord lasts indefinitely, as it is automatically wound up on a reel when not in use—not dragging over the floor and invariably short circuiting. The reel operates on the same principle as a window shade and winds or unwinds any length desired. No tension on lamp cord. Endorsed by the Fire Insurance Underwriters. Equipment includes 25 ft. reinforced packing-house cord, socket handle, and strong lamp guard (without globe).

Automatic Extension Reel. List Price, Each.....\$15.00

Electrical Fittings

LAMP GUARDS



Clamps around socket. Lamp

Guard only. List Price,
Each30



Benjamin Clusters, 2 light swivel.
List, Price.....\$1.25

Benjamin Clusters, 3 light swivel.
List, Price.....\$1.50

Benjamin Clusters, 4 light swivel.
List, Price.....\$1.90



Key Socket



Pendant Switch



Snap Switches

Brass Key Sockets, 1/8" opening. List Price.....\$.40

Brass Key Sockets, 3/8" opening. List Price..... .45

Double Button Pendant Switches.
List Price, Each.....\$.90

Snap Switches, single pole, 5 amp.
List Price, Each.....\$.50

Snap Switches, single pole, 10 amp.
List, Price Each.....\$.85

Snap Switches, double pole 5 amp.
List, Price Each.....\$1.00

Snap Switches, double pole, 10 amp.
List Price, Each.....\$1.20



Entrance Switches with
plugs and fuses, 30
amp. 2 pole. List, Price
Each\$1.00

Knife Switch, single throw, double pole.
List, Price\$.90

Knife Switch, double throw, double pole.
List, Price\$1.50



Attachment Plugs, 2 piece.
List, Price Each.....\$.30



Knob



Cleat Receptacle



"Nail" Knob

"Nail" Knob, List, Price Each.....\$.05

Porcelain Knobs. List, Price Each.....\$.03

Cleat Receptacles. List, Price Each.....\$.20



Porcelain Fuse Blocks, single.
List, Price.....\$.25

Porcelain Fuse Blocks, double.
List, Price.....\$.40

PORCELAIN TUBES



Size	List Price Each
3/8" x 3"	\$.03
3/8" x 4"	\$.04
3/8" x 5"	\$.04 1/2
3/8" x 6"	\$.05 1/2

FUSE WIRE

Tested and Guaranteed.

1 Lb. Spools.



	List Price Per lb.
5 Ampere.....	\$1.50
10 Ampere.....	1.25
15 Ampere.....	1.20
20 Ampere.....	1.20
25 Ampere.....	1.20
30 Ampere.....	1.20

AUTO FUSES

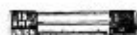
For electric starting and lighting systems on gasoline or electric cars or trucks. Types 1A, 2A, 3A, 4A, and 4G can be used for any voltage up to 50 volts. Types 5A, 5AG, 6A and 6AG can be used for any voltage up to 100 volts.

(STANDARD PACKAGE 100)

When ordering, do not fail to specify Fuse Number, Ampere and Make of Car; this will insure our sending the correct Fuse



Type 1A
Glass Tube $\frac{1}{2}$ " x $\frac{1}{4}$ "
Price 5c each



Type 2A
Glass Tube $\frac{1}{2}$ " x $\frac{1}{4}$ "
Price 5c each



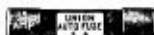
Type 3A
Glass Tube $\frac{1}{2}$ " x $\frac{1}{4}$ "
Price 5c each



Type 4A
Fibre Tube $1\frac{1}{2}$ " x $\frac{1}{4}$ "
Price 18c each



Type 4AG
Glass Tube $1\frac{1}{2}$ " x $\frac{1}{4}$ "
Price 10c each



Type 5A
Fibre Tube $1\frac{1}{2}$ " x $\frac{1}{4}$ "
Price 18c each



Type 5AG
Glass Tube $1\frac{1}{2}$ " x $\frac{1}{4}$ "
Price 10c each



Type 6A
Fibre Tube $2\frac{1}{2}$ " x $\frac{1}{4}$ "
Price 25c each



Type 6AG
Glass Tube $2\frac{1}{2}$ " x $\frac{1}{4}$ "
Price 20c each

GASOLINE CARS			GASOLINE CARS		
MAKE OF CAR	Fuse No.	Amp.	MAKE OF CAR	Fuse No.	Amp.
Alfa 1918-19	3A	15	Harmon 1918	3A	20
Anderson 1917-18	5A	5-15	Haynes 1917-18-19-20	1A	5
Apperson	3A	20-30	Hopwood 1915-16	4A	15
Apperson 1920	1A	20	Hopwood 1917-18	1A	10
Ashe 1917	16A	Special	Hopwood 1919-20	3A	15
Bartleson 1917-18	SAG	15	Imperial, Model 56	4A	5
Biddle 1917-18-19	SAG	10-15	Imperial, Model 64	1A	20
Bear 1917	2A	20	Imperial, Models 66F and 66, 1916	SAG	15
Brice 1915-17-18-19	1A	20	Jackson 1916-17-18	1A	20
Buick	20A	Special	Jeffery 1916-17	3A	20
Casa 1917-18	1A	20	Jordan 1917-18-19	3A	20
Cash 1917	3A	15	Jordan 1919	1A	20
Chadwick 1918	5A	15	King	SAG	10
Chalmers, Model 35	SAG	30	King 1917-18-19-20	3A	10-15
Chalmers 1917-18	3A	15			
Chalmers 1918-19-20	2A	20	Kissel 1916-17	3A	20
Chandler	5A	5-15	Kissel 1918-19-20	3A	20
Chandler 1917-18-19	2A	20	Kissel	4A	10-15
Chrysler 1915-16	6A	20	Lea 1915-16-17	SAG	15
Chrysler, Model 490	1A	20	Lea 1918-19-20	3A	15
Chrysler, Model FB	1A	20	Lea 1915	5A	15
Chrysler 1917-18-19	1A	20	Lea 1916-17	SAG	10-15
Cleveland	2A	20	Lea 1918-19-20	SAG	10-15
Crawford 1916-17	SAG	5-15	Laurie	6A	15
Crow 1917	1A	20	Laurie 4 Cyl 1917	6A	20
Crow 1918	1A	10	Marion-Hendley	SAG	30
Cunningham J. 1914	4A	15	Marion	4A	20
Cunningham J. 1915	1A	20	Maxwell 1915-16-17	3A	20
Cunningham J. 1916	5A	15-20	Maxwell 1918-19	1A	20
Daimler 8	5A	5-15	McFarlan 1917	SAG	10-30
Daimler 1917-18-19-20	1A	20	Mercur 1915-16-17	2A	10
Detroit 1917-18	5A	10	Mercur 1917	Special	5
Diapich 1917-18	3A	15	Mercur 1915-16-17-18	SAG	30
Dodge 1917-18-19	3A	20	Mitchell 1917-18-19	3A	20
Dodge	4A	10	Molze 1916-17-19-20	6A	20
Dorris 1918-19	SAG	15	Molze 1916-17-20	1A	20
Dort 1916-17-18-19	1A	10	Molze 1920	2A	15
Elcar 1917-18-19-20	2A	15	Molze 1917-18	3A	20
Elgin 1917	1A	20	Nash, Model 681-1918	1A	20
Empire 1916-17-18	1A	20	National 1919-20	1A	20
Eger	1A	20	Nelson 1917-18	SAG	30
Fiat	SAG	5-15	Nelson 1917-18	Special	5
Ford 1916-17	6A	30	Oakland, Models 32 and 32B	4A	15
Franklin 1915-16	3A	15	Olympia	1A	20
Franklin 1917-18-19	2A	10	Overland, Models 79 and 81	1A	20
Gle 1916-17	5A	5-15			
Grant 1916	SAG	30			
Grant 1917-18-19-20	3A	20			

The above illustration shows how "Union" Auto Fuses are packed. 10 fuses in an envelope, 10 envelopes in a carton making a standard package of 100 fuses.



No. 1G—List Price \$8.00
Contains 100 Glass Fuses

We also furnish an assortment of 100 fibre and glass fuses which is known as our No. 1—List Price \$13.00



No. 3—List Price \$11.00
Contains 150 Glass Fuses



No. 2—List Price \$15.00
Contains 200 Glass Fuses

GASOLINE CARS			ELECTRIC CARS		
MAKE OF CAR	Fuse No.	Amp.	MAKE OF CAR	Fuse No.	Amp.
Overland 1916-17	1A	20	American	5A	10
Overland 1918-19	1A	20	Anderson 1914-15-16	6A	10
Oves Magnatic 1917	5A	10-15	Anderson 1917-18	5A	5-15
Packard	2A	10-15	Baker 1915-16-17	5A	10
Packard 1917	3A	20	Baker 1918	3A	10
Packard Trucks	2A	10	Chicago	5A	15
Paige	1A	20	Dayton	6A	10
Pax Americana	2A	20	Detroit 1914	6A	10
Perfection 1916-17-18	1A	30	Detroit 1915-19	5A	15
Pierce-Arrow	SAG	5-10-30	G. V. C.	6A	5
Premier 1915	3A	10	Griswell	6A	15
Premier 1916	4A	10	Ohio 1916-17-18	6A	15
Princess 1917	6A	20	Ward	3A	5
Pullman 1917-18	1A	20	Woods	5A	5
Reo Light Six	4A	6	Woods 1917-18	3A	10
Roamer	3A	10-20			
Saxon Six	1A	20			
Saxon 4-6 1916-17	SAG	15-20			
Saxon 4-6 1916-17	2A	20			
Saxon Six 1918-19-20	3A	15			
Simplex 1915-16	6A	30			
Simplex 1915-16	5A	30			
Simplex 1917	6A	20			
Simplex 1917	5A	10			
Stegman Trucks	5A	15			
Standard 1916-17	SAG	20			
Standard 1917	3A	20			
Standard 1918	3A	15			
Stearns 4 1916-17-18	1A	20			
Stearns 8 1916-17-18	3A	20			
Stephens 1917	1A	20			
Stoddard 1916-17	3A	10			
Stoddard 1918-19-20	3A	10			
Stutz	3A	15			
Sun 1917	2A	20			
Valve, Models 15-27	1A	20			
Valve, Models 28-37	1A	20			
Valve, Models 38-48	15A	Special			
White 1914-15-16	4A	15			
White 1917-18	1A	10			
Willy-Knight	6A	20			
Willy-Knight	5A	15			
Willy-Knight	4A	15			
Willy-Knight	2A	15			
Winton	3A	30			
Winton, Model 21A	5A	20			
Winton 1916-17-18	2A	20			
Zimmerman	3A	15			

ELECTRIC STARTING AND LIGHTING SYSTEM FUSES

Apples	18A	50
Apples	17A	Special
Apperson	3A	10
Auto Lite	1A	20
Bjork	3A	10
Briggs & Stratton	3A	10
Dean	3A	15
Electric Auto Lite	1A	20
Exterior	4A	15
Gay & Davis	1A	20
Gray & Davis (Ford)	5A	30
Gray & Davis (Ford)	5A	20
Gray & Davis (Ford)	5A	20
North East	4A	10
Ramp	3A	5 & 15
Splinter	17A	Special
Westinghouse	4A	15
Westinghouse Special	5A	20
Westinghouse (Ford)	3A	15

MOTOR CYCLES

Excelsior 1914-15	2A	15
Excelsior 1916-17	16A	Special
Harley Davidson	2A	6
Indian	4AG	15



No. 15A for Velie Car
Price 18c each



No. 16A for Auburn
and Excelsior
Price 18c each



No. 17A for Apples and Splinter Starter,
Mitchell 1916, Pullman, Hallier Eight
Price 18c each



No. 18A for Apples
Starter
Price 35c each



No. 20A for Buick Car
Price 18c each

COLUMBIA HOT SHOT BATTERIES



Eliminates the possibility of loose connections. Columbia Hot Shot Batteries consist of a series of unit dry cells in an attractive red moisture-proof case. Soldered copper strips connect the individual tested cells, which are entirely surrounded by water-proof insulating compound. It is only necessary to connect two wires to the binding posts. Hot Shot Batteries are particularly useful for ignition or lighting purposes, as they are unaffected by moisture or dampness. Each battery is equipped with convenient carrying handle as shown in illustration.

Each battery is equipped with convenient carrying handle as shown in illustration.

No.	Volt- age	Lgt. In.	Wth In.	Ht. In.	Weight of Std. Stand- Pkg. ard	Lbs.	Pkg.	List
1361	4½	8	2¾	7½	315	35		\$2.13
*1461	6	10½	2¾	7½	290	25		2.74
*1462	6	5¾	5¾	7½	290	25		2.74
2261	3	10½	2¾	7½	290	25		2.74
2262	3	5¾	5¾	7½	290	25		2.74
1561	7½	13¼	2¾	7½	284	20		3.25
1561S	7½	12¾	2¾	7¼	284	20		3.25
1562	7½	8	5	7½	274	20		3.25
*1661	9	15¾	2¾	7½	290	17		3.96
1662	9	8	5¾	7½	290	17		3.96
2361	4½	15¾	2¾	7½	290	17		3.96
2362	4½	8	5¾	7½	290	17		3.96
2462	6	10½	5¾	7½	280	12		5.08
4262	3	10½	5¾	7½	280	12		5.08
2562	7½	13¼	5¾	7½	256	9		6.40
5262	3	13¼	5¾	7½	256	9		6.40
2662	9	15¾	5¾	7½	235	7		7.53
2663	9	10½	8½	7½	235	7		7.53
3464	6	15¾	5¾	7½	235	7		7.53
3463	6	10½	8	7½	235	7		7.53

Note.—Most popular selling numbers marked *.

COLUMBIA IGNITOR DRY CELL BATTERIES



The best known, easiest selling dry battery made. Particularly recommended for ignition or lighting purposes. Furnished in round or square cartons. For automobile work the round carton is the most popular.

Furnished with Fahnestock binding posts at no additional charge. Packed in barrels of 125 batteries. Weight per bbl., 300 lbs.

No. 6 Columbia Ignitor Dry Cell Batteries.

List Price, Each.....\$.50

NOARK AUTO FUSE ASSORTMENT



A substantial counter display case, with hinged lid and 11 compartments and an assortment of 110 Auto Fuses for lighting, etc., circuits on the most popular makes of automobiles. Enables the dealer to conveniently and attractively display his fuses.

Assortment consists of the following Fuses:

Cat. No.	Kind	Amp.	Quan- tity	Price List Each
2710	Glass	20	15	\$.05
2709	"	15	10	.05
2707	"	10	5	.05
2514	Fibre	15	10	.18
2509	"	10	10	.18
2589	Glass	5	10	.10
2594	"	15	10	.10
2597	"	30	10	.10
2722	"	10	15	.07
2725	"	20	10	.07
2772	Fibre	20	5	.25
Total.....				110

Noark Auto Fuse Assortment. List Price.....\$12.50

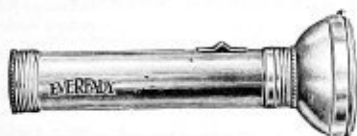
If you sell or believe you can sell 10 or more barrels of Columbia Batteries within one year's time, sign our Columbia Dry Battery Contract which does not obligate you to buy any particular quantity but entitles you to a cash rebate on all dry cells purchased from us if your total purchases amount to 10 or more barrels.

**EVEREADY
DAYLO**

THE LIGHT THAT SAYS: "THERE IT IS!"

Every motorist needs a flashlight in his car. Why not make that extra profit by keeping a stock of genuine Eveready Flashlights and Eveready Batteries on hand.

NOTE—Read the guarantee on each Eveready Battery before breaking the seal.



Nos. 6954, 6961, 6962

Nos. 6991, 6992

Style	Finish	Size	List Price Less Battery	Unit Carton Quantity	Std. Pkg. Quantity	Bat. No.	Bat. Price	Bulb No.	Bulb Price
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TUBULAR STYLES

2629	Gun Metal	5½"	\$1.35	10	100	791	\$.30	1182	\$.20
2639	Nickel	5½"	1.35	10	100	791	.30	1182	.20
2657	Nickel	6½"	1.65	10	100	790	.35	1198	.20
2602	Vul. Fib.	5½"	1.05	10	100	791	.30	1182	.20
2604	Vul. Fib.	6½"	1.35	10	100	790	.35	1198	.20
2612	Vul. Fib.	8½"	1.50	5	50	705	.50	1193	.20
2630	Nickel	5½"	1.25	10	100	791	.30	1182	.20
2631	Nickel	6½"	1.50	10	100	790	.35	1198	.20
2632	Nickel	8½"	1.75	5	50	705	.50	1193	.20

MINER STYLES

2660	Vul. Fib.	5½"	1.20	5	50	791	.30	1182	.20
2616	Vul. Fib.	6½"	1.65	5	50	790	.35	1198	.20
2619	Vul. Fib.	8½"	1.75	5	50	705	.50	1193	.20
2661	Nickel	5½"	1.45	5	50	791	.30	1182	.20
2634	Nickel	6½"	2.00	5	50	790	.35	1198	.20
2633	Nickel	8½"	2.25	5	50	705	.50	1193	.20

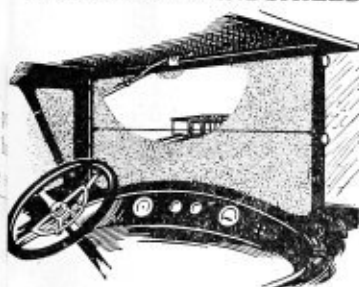
SEARCHLIGHT STYLES

2638	Nickel	6½"	2.75	5	50	790	.35	1198	.20
2637	Nickel	8½"	3.00	5	50	705	.50	1193	.20
2658	Vul. Fib.	6½"	2.65	5	50	790	.35	1198	.20
2659	Vul. Fib.	8½"	2.75	5	50	705	.50	1193	.20

VEST POCKET STYLES

6961	Nickel	3 x 1¾"	.70	10	100	750	.30	1180	.20
6962	Nickel	3 x 2¼"	.85	10	100	751	.40	1181	.20
6954	Nic. Plated	3½ x 1¾"	.95	-----	-----	792	.30	1182	.20
6991	Nickel	3 x 1¾"	.95	10	100	750	.30	1180	.20
6992	Nickel	3 x 2¼"	1.10	10	100	751	.40	1181	.20

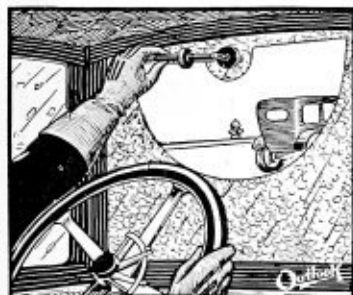
OUTLOOK WINDSHIELD CLEANERS



"OUTLOOK REGULAR"



"OUTLOOK THRU THE FRAME"



"OUTLOOK THRU THE GLASS"

Outlook Windshield Cleaner, all Styles.

List Price\$2.00

WINDSHIELD WEATHER STRIPS

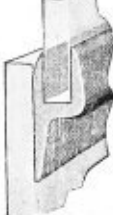
Designed for use between the upper and lower sections of Windshields, completely closing the gap and preventing rain or snow from beating in. Made of soft high-grade rubber.



No. 97

No. 97 fits all standard-sized windshields. Length, 42 in. Packed 15 lengths to a box.

No. 109—For Ford and other offset windshields. Length, 37 in. Packed 12 length in box.



No. 109

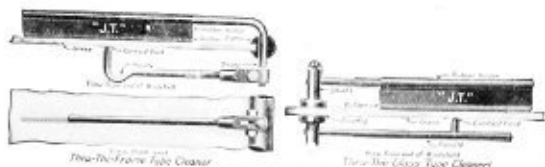
No. 67 (not illustrated). Channel section or "U" shaped rubber strip, 11/32 in. wide by 5/16 in. high, inside measurements, which will fit glass up to 3/4 in. thick. Comes in rolls of 50 feet in box.

No. 97 Windshield Weather Strip, per 42 inch length. List Price\$.65

No. 109 Windshield Weather Strip, per 37 inch length. List Price\$.65

No. 67 Windshield Weather Strip. List Price per ft.\$.15

"J. T." WINDSHIELD CLEANER



Made in three styles, fitting every type of body or windshield. Simplicity itself in construction. Simply snaps over top of frame and arranged with adjustable tension.

Type 1—Intended for open cars.

Type 2—Intended for attachment by drilling one small hole through the frame. Fits any car and is arranged with double tension.

Type 3—For use in limousines, sedans, etc., and requires drilling one small hole through glass. Automatically keeps the proper tension.

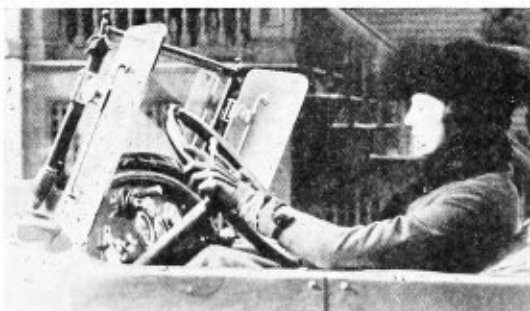
"J. T." Windshield Cleaner is the latest type on the market. Low in price. Its construction includes all the newest improvements.

In ordering be sure to specify which type is wanted.

"J. T." Windshield Cleaners, all Styles. List

Price\$1.50

AUXILIARY WINDSHIELDS



Consists of two polished plate glass shields for attachment to uprights of windshield. Attaching fixtures made of brass, highly nickel plated, adding greatly to appearance of car. Auxiliary Windshield will keep off wind, rain and dust, diverting the wind. Easily adjusted, instantly movable in all directions. Size of glass, 10 x 20 inches, with rounded edges.

Auxiliary Windshields, per set of 2. List Price.....\$25.00

MIRRORS

Best quality selected glass. Metal parts finished in rich satin baked-on enamel that is guaranteed not to rust. Will not rattle or jar loose. All joints water-proof, preventing water from discolored mirror.

In ordering Mirrors be sure to select the clamp of the proper shape and style and specify the catalogue number of Mirror desired.



"A" CLAMP

Fits Apperson, Comet, Dorris, Franklin, Ford, Haynes, Kline, Metz, Packard, Stevens.

"B" CLAMP

Fits Chevrolet 490, Elgin, Kissel Kar, National, Owens, Peerless, Pierce-Arrow, Stanley, Westcott.

"D" CLAMP

Fits Marmon, Liberty, Studebaker, Big Six.



Style A

Style B

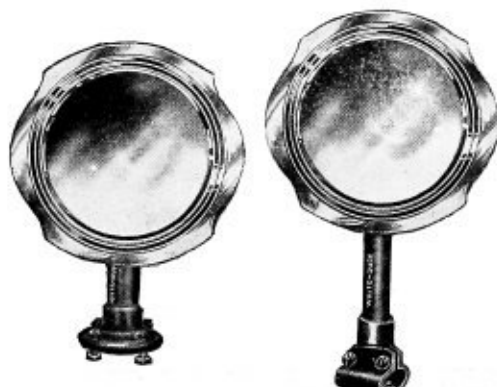
Style D

Style I

"I" CLAMP

Fits Allen, Auburn, Briscoe, Buick, Cleveland, Case, Columbia, Crow-Elkhart, Chalmers, Chevrolet, Cadillac, Cole, Chandler, Dort, Dodge, Grant, Hupp, Holmes, Hudson, King, Mercer, Moon, Mitchell, Maxwell, Nash, Overland, Oldsmobile, Oakland, Paige, Reo, Stearns, Studebaker Special, Scripps-Booth, Saxon, Stutz, Vellie, Winton, Willys-Knight.

PACKARD TYPE MIRROR



No. 505 Fender Type No. 96 Windshield Type

Made with 5 inch beveled ground lens. A very fine Mirror intended for the best cars.

No. 96—A, B, D or I Windshield Type. Full Black or Black and Nickel Finish. List Price.....\$6.50

No. 505—Fender Type. Full Black or Black and Nickel Finish. List Price..... 6.50

ROUND MIRRORS

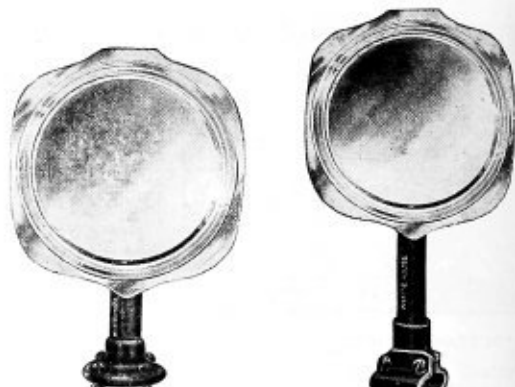
For Closed Cars



Five inch beveled plate glass. A popular type for closed cars.

No. 102-J.—5 inch Round Mirror. Full Black or Black and Nickel Finish. List Price.....\$3.75

CADILLAC TYPE MIRROR



No. 405 Fender Type No. 97 Windshield Type

A handsome 5 inch beveled ground lens Mirror that is an ornament to any car.

No. 97—A, B, D or I Windshield Type. Full Black or Black and Nickel Finish. List Price.....\$6.50

No. 405—Fender Type. Full Black or Black and Nickel Finish. List Price..... 6.50

INTERIOR MIRROR



For Closed Cars.

Attaches to top of windshield by means of polished nickel plated clamps. A special desirable Mirror for use on limousines, sedans, etc. Made in two sizes—2 1/4" x 15" and 2 1/4" x 7". All best quality polished plate glass.

No. 116—Size 2 1/4" x 15". List Price, Each.....\$6.25

No. 216—Size 2 1/4" x 7". List Price, Each..... 3.00

MIRRORS

NOTE.—In ordering be sure to specify style of Bracket desired and finish of Mirror.

ROUND MIRRORS



OVAL MIRROR

Windshield Type

High grade beveled plate glass.
Size 4" x 6".

No. 98—Windshield Type A, B, D,
or I. Full Black or Black and Nickel
Finish.

List Price, Each.....\$4.00

"CADILLAC" INTERIOR WINDSHIELD MIRROR

Beveled plate glass with neat metal binding strip.
Attaches to windshield by means of small clamps.
Size 2 1/4" x 8".

No. 110—Full Black or Black and Nickel Finish.

List Price, Each.....\$6.00

EUREKA INTERIOR MIRROR



Especially intended for enclosed drive cars or cars
equipped with glass curtain windows. Consists of a
2 1/2 x 12 inch beautiful plate glass flat Mirror for at-
tachment to windshield or front bow of top. Attached
by means of small nickel plated screw clamps. Type
"A" fastens to windshield. Type "C" fastens to top.
List Price, either style.....\$4.00

TRUCK WINDSHIELD MIRROR



Made with extra long standard,
as shown in illustration, with 4" or
5" round reducing Mirror. Full
Black Finish only.

No. 103-T—4" Mirror.

List Price, Each.....\$1.75

No. 104-T—5" Mirror.

List Price, Each.....2.00

TRUCK FENDER MIRROR

Made with rigid gooseneck, as
shown in illustration. Extra strong.
Cannot jar loose; 5" round mirror.

No. 108—Truck Fender Type. Full
Black Finish only.

List Price, Each.....\$3.00



Windshield Type



Fender Type

Made with 5 inch ground and beveled lens. A
rich looking Mirror on dignified lines.

No. 302—Windshield Type A, B, D or I. Full
Black or Black and Nickel Finish. List Price.....\$5.50

No. 205—Full Black or Black and Nickel Finish.
List Price.....5.50

A high grade 5 inch beveled reducing Mirror—one
of our most popular styles.

No. 202—Windshield Type A, B, D or I. Full
Black or Black and Nickel Finish. List Price.....\$4.00

No. 305—Fender Type. Full Black or Black and
Nickel Finish. List Price.....4.00

An excellent quality 5 inch reducing Mirror of
sturdy construction.

No. 105—Fender Type. Full Black or Black and
Nickel Finish. List Price.....\$2.50

ROUND REDUCING MIRROR



Fender Type



Windshield Type

Made in two sizes with 4 and 5 inch reducing
Mirror, with bracket for Ford cars.

No. 103—Windshield Type, 4 inch Round Mirror
Full Black or Black and Nickel Finish.

List Price.....\$1.50

No. 104—5 inch Round Mirror. Full Black or
Black and Nickel Finish. List Price.....1.50

No. 106—Fender Type, 5 inch Round Mirror.
Full Black or Black and Nickel Finish.

List Price.....1.75

No. 107—Fender Type, 4 inch Round Mirror.
Full Black or Black and Nickel Finish.

List Price.....1.50

GOGGLES

The easiest way to sell Goggles is to show them where your customer can make his own selection and fit them to his own individual needs. Put one of these handsome metal enameled Goggle Display Cabinets on your counter in a prominent place and sell twice or three times as many goggles as you did last year. Every tourist is a live prospect for goggles.

This selection includes all the latest styles of Goggles priced from \$.50 per pair to \$2.50 per pair retail. The handsome metal container displays one pair of each style with a convenient space in the back for carrying the excess stock. Assortment contains the following Goggles.

- 3 Pair No. 140, Small size Zyllo shell frame, amber lenses. Retails at 50c.

- 4 Pair No. 143, Regular size Zyllo shell frame, amber lenses, a very popular number. Retails at 85c.

- 3 Pair No. 1504, VENTIFLEX, amber. The newest and best side shield goggle made. Retails at \$1.00.

- 2 Pair No. 150, Large size Zyllo shell frame, Euphos lenses. A useful size for all occasions. Retails at \$1.25.

- 2 Pair No. 043, Regular size NOSQUINT lenses, so constructed as to keep out all over-lights—it does your squinting for you. Retails at \$1.50.



- 2 Pair No. 129, NUFORM shape. Fits the face and protects better than a round shape. Retails at \$1.50.

- 2 Pair No. 5050, Large size Euphos lenses, Zyllo shell frame. The OVERALL style to fit comfortably over eye glasses. No bridge bears on nose. Retails at \$1.75.

- 2 Pair No. 743, Regular size, ALLWON. The optical shock absorber. The best sun goggle made. The brightest overhead sun does not bother the wearer. Retails at \$1.75.

- 2 Pair No. 75050, Large size ALLWON in OVERALL frame. A sure comfort protector for brightest light and a good-looking frame that will fit over any glasses. Retails at \$2.25.

- 2 Pair No. 15, The new SHELLEDGE goggle. Large size shell rim with gold filled bridge, adjustable cable temples, amber lenses. This is a neat high-class goggle. Retails at \$2.50.

Stock carried in rear of case. Full size of display is 14 x 22 inches.

Goggle Display Assortment with 24 Pair Goggles Listed Above. List Price.....\$32.90

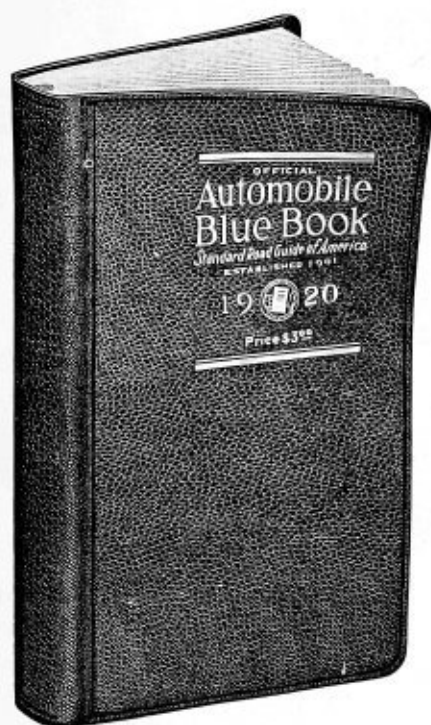
NOTE.—In ordering "Refills" for above assortment be sure to specify number of Goggle desired.

WELDING GOGGLES

Made entirely of fibre material without metal. Heat-proof, light and comfortable, well ventilated, and equipped with special lens for eliminating dangerous light rays and all possibility of strain to the eyes. Convenient adjustments enable it to be exactly fitted to the wearer.

Welding Goggles. List Price, Per Pair.....\$2.50





The New 1920

Automobile Blue Book

America's Standard Road Guide since 1901

Gives detailed running directions for every mile to any place that can be reached by automobile—tells how far any place is and whether the roads are good or bad—where to stop, where to eat, where to get gasoline or repairs and where the service stations are—what the speed laws and traffic regulations are enroute—gives ferry and steamship schedules—points out the historic and scenic places along the way—warns of curves, grades and dangerous crossings ahead—helps to plan tours—will tell any motorist exactly where he is at any minute of his trip.

This is essential information to every motorist. It will add to the pleasure of his tours. It will relieve him of every care and worry.

FOR EVERY SECTION OF THE COUNTRY THERE IS A CORRESPONDING 1920 BLUE BOOK

- VOL. 1**—N. Y. State and adjacent Canada, including Long Island and adjacent sections of Conn., Mass., Vt., Ohio, Pa., and N. J.
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- VOL. 6**—N. C., S. C., Ga., Fla., Ala., Miss., Tenn. and Eastern La., with extension routes to Washington, D. C., Louisville and Cincinnati.
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- VOL. 10**—Mont., Wyo., N. D., S. D., Neb. and Northern Colo., with extension routes to St. Louis, Kansas City and across Southern Canada and Winnipeg.

- VOL. 11**—Wis., Minn., Northern Iowa, Northern Illinois and Upper Mich., with extension routes to St. Joseph, South Bend, Lafayette and Indianapolis, St. Louis and Kansas City.

- VOL. T**—Transcontinental Blue Book. Shows main highways for transcontinental travel for the entire United States. No other roads or side routes given.

- VOL. A**—New York Metropolitan Blue Book. An intimate guide to New York City and territory within a 50 mile radius. A complete guide not only for the automobile tourist, but also for anyone living in or visiting New York.

All volumes are uniform in style, size and binding, average 1000 pages, printed on special thin paper, with hundreds of maps and illustrations, in limp "Royal Blue" binding, stamped in gold.

Automobile Blue Book. Per Volume, List Price \$3.00

In Ordering Be Sure to State Which Volumes are Desired.

AUTO CLOCKS

We carry a complete line of high-grade Clocks ranging in price from the very lowest up to the finest made. These Clocks are so constructed as to withstand vibration, dampness, and change of temperature under the most adverse condition. All Keyless Clocks are fitted with luminous dials at a nominal extra charge.

MODEL 9

Cowl Type. Eight-day rim wind, rim set. Projects about $\frac{3}{8}$ " from dash. Black case with nickel rim; $2\frac{3}{4}$ " silver dial with black numerals or luminous dial.

List Price with Silver Dial.....\$17.50

List Price with Luminous Dial..... 15.50

MODEL 12

Cowl Type. Eight-day rim wind, rim set. Fits all styles of instrument boards. Movement similar to No. 7, but smaller in size. Dial, $2\frac{1}{4}$ " in diameter; black, silver, or luminous. Finished in black with nickel rim.

List Price with Black or Silver Dial.....\$14.00

List Price with Luminous Dial..... 16.00

MODEL 12-B

Cowl Type. Eight-day rim wind, rim set; $2\frac{1}{4}$ " dial, finished in silver, black or luminous. Black case with nickel rim. Projects about $\frac{3}{8}$ " from dash.

List Price with Black or Silver Dial.....\$14.50

List Price with Luminous Dial..... 16.50

AEROPLANE

Eight-day rim wind, rim set. Used by U. S. Navy Aeroplanes. Water-proof, uninjured by shocks or vibrations. Case black enamel with nickel rim. Black dial with luminous figures and hands.

List Price.....\$19.00

DENVER

Cowl Type. Eight-day key wind. Equipped with white celluloid $2\frac{1}{4}$ " dial. Finished in black and nickel. Not made with luminous dial.

List Price.....\$8.25

POP-OUT

Flush Cowl Type. Eight-day, rim wind, rim set. Fits absolutely flush with instrument board. Finished in black with nickel winding rim. Dial, $2\frac{3}{4}$ " in diameter, finished in dull black with silver numerals or luminous dial.

List Price without Luminous Dial.....\$17.00

List Price with Luminous Dial..... 19.00

MODEL 7

Cowl Type. Eight-day rim wind, rim set. Projects about $\frac{1}{2}$ " from dash. Dial, $2\frac{3}{4}$ " in diameter. Finished in silver or black. Clock finished in black with nickel rim.

List Price with Black or Silver Dial.....\$14.75

List Price with Luminous Dial..... 16.75

FRISCO No. 2

Cowl Type. Thirty-hour concealed stem wind. Wound by removing movement from outer case; $2\frac{1}{4}$ " white dial. Finished in black and nickel. Not made with luminous dial.

List Price.....\$5.50

SCHRADER UNIVERSAL

REGISTERED U. S. PATENT OFFICE

MOTOR TIRE VALVES AND ACCESSORIES



Schrader Universal
No. 880 Motor Valve Cap

For use on motor tire valves.

These caps prevent dust and dirt from getting into the Valve-Stem. It is therefore imperative that they are always screwed on Valve after pumping. They also form an airtight closure when screwed on valve. Top is slotted so that it can be used to remove or insert valve inside.

Price each, .08



Schrader Universal

No. 3199
Quick Acting Dust Cap

Made of brass and steel, nickel plated and polished. Intended for the larger size tires using a No. 725 type valve. Caps do not have to be screwed on valve, simply slip cap over valve stem, tap it at the top with the fingers and it automatically fastens itself up against the rim nut or fellee of the wheel. It can be removed in a moment by pressing the two small levers at the sides inwardly, this action releases a steel prong at each side from the valve threads. Illustration herewith shows construction.

Packed individually in cardboard boxes, five caps to a set.

Price per set of five 2.50
Price each50



Schrader Universal
Valve Insides

Used on all types of Pneumatic Tire Valves.
Packed 5 in a Tin box, 20 boxes to a Carton.

Price per Box of Five, .40



Schrader Universal
No. 2033 Motor Tire
Valve for Pneumatic
Truck Tires

Large Base Valve for Automobile Truck Tires 6" and larger. Nos. 2889, 2792, 2415. Valves have similar base but vary in length, fittings on all interchangeable.

- 2889 Valve for WIRE WHEELS, 2 3/4" from base to end large thread on male. Price each, .95
- 2792 Valve 3 3/8" from base to end large thread on male. Price each, .98
- 2033 Valve 3 3/4" from base to end large thread on male. Price each, 1.00
- 2415 Valve 4 1/2" from base to end large thread on male. Price each, 1.10

Schrader Universal
No. 2689
Adjustable Dust Cap

For use with Wire Wheels where valve extends too far beyond the rim for an ordinary Dust Cap. Is attached to valve by only screwing down three or four threads. Is made in two parts. Top telescopes bottom—Top part is threaded—Attach top by screwing on valve by a few turns, then pull down bottom part over valve until it rests on rim nut of valve. Dust Cap will not shift or loosen while car is in motion.

Price each30



Schrader Universal
No. 2081 Hexagon
Rim Nut
For No. 725 Valve

Price each,05



Schrader Universal
No. 2026 Bushing
For 777 Valve.

Price each.06

SCHRADER UNIVERSAL

REGISTERED U. S. PATENT OFFICE

MOTOR TIRE VALVES AND ACCESSORIES

Schrader Universal
No. 777
Motor Tire Valve
Standard size for 3" tires and under.



Schrader Universal
No. 725
Motor Tire Valve
Standard size for 3 1/2" tires and over.

No. 777 Valve complete without Dust Cap.....
Price each, .48

No. 725 Valve complete without Dust Cap.....
Price each, .61

No. 792 Valve complete without Dust Cap.....
Price each, .65

The No. 792 Valve is same as No. 725 except it is 3/8" longer. Is regular valve for Demountable Rims.

No. 1822 Valve complete without Dust Cap.....
Price each, .58

The No. 1822 Valve is same as No. 725 but is made short for Wire Wheels.

Schrader Universal
"KWIKONANOFF"
TRADE MARK

No. 3172 Dust Cap
For Motor Tire Valves

The function of Dust Caps is to keep dust and dirt away from the Valve Threads and it is imperative to always have them on valve. They give your valves a finished look which enhances the whole appearance of the car.



Made substantially of brass, nickel plated, cannot rust. Are put on and taken off tire valve "quick" thus eliminating the trouble of screwing the cap the entire length of protruding valve stem.

Simply slip cap over valve stem and give about a half turn to the right until tight. To take it off reverse the operation and the cap can be instantly slipped off. Can not jar loose while car is in motion. Four to a package.

No. 3172 and 3219, Retail price per set of four .50



Schrader Universal
Tire Pressure Gauge

Nothing is as essential to the long life of tires as air. The only way to know whether or not your tires have enough air is to measure it with a reliable tire pressure gauge. The SCHRADER UNIVERSAL Tire Pressure Gauge is such a Gauge. Convenient in size, simple and absolutely accurate. Endorsed by Tire Manufacturers as the most reliable gauge on the market.

Directions: Remove valve cap. Press gauge squarely but firmly over mouth of valve. This will let the air into the gauge and cause the indicating tube to emerge until on a line with the figures representing the pressure inside the tire. The indicating tube will remain at this line until pushed back into the gauge shell. Each in leather case.

Price each, \$1.50



Schrader Universal
No. 2789 Tire Pressure Gauge

For Pneumatic Truck Tires with right angle foot making it possible to use gauge between the spokes on heavy truck wheels. Indicating sleeve calibrated from 30 to 170 lbs.

Price each, \$2.00



Schrader Universal
No. 2069 Dust Cap
For motor tire valves.

No. 2069 Dust Cap, regular

Price each, .11

No. 2070 Dust Cap, regular

Price each, .12

No. 2070 is same as regular No. 2069 but is 3/8" longer.

SCHRADER UNIVERSAL

REGISTERED U. S. PATENT OFFICE

MOTOR VALVE ACCESSORIES

Schrader Universal
No. 2815 Pump Connection

It does away with the trouble of disconnecting your air hose in order to take the pressure with your tire gauge. The vertical part becomes really an extension of the Valve itself. The pin in same pushes down the valve core when you place the gauge on top of it. A power or hand tire pump is not complete without it. It is arranged for quick renewal of seat washer.

Price each, .50



Schrader Universal
No. 2815 Pump Connection
Put up in dozen lots on counter display cases.



Schrader Universal
No. 3037 Valve Repair Tool

Effects quick and proper repair of Cap Threads and Inside Threads of Valves.
New Features:--Deflator in side-socket empties inner-tube of air. Larger diameter swivel nut which provides more convenient removal of Valve Inside.

Price each, .35



Schrader Universal
No. 3037 Valve Repair Tool
Put up in dozen lots on counter display boards.



Schrader Universal
Inflating Valve

For Garages and Street Lines in connection with Power Pumps. Works automatically and gives instant service and will not injure valve inside. Guaranteed not to leak. Is protected by Outside Rubber Cover.

Price each, \$1.50



Schrader Universal
No. 3074 Star Wrench

For screwing down Hexagon nuts on Motor Tire Valves. Hexagon on one side for 777 and on other for 725 Hexagon Nut.

Price each, .25

PERFECTION PUMP COUPLING

For use with all tire valves, foot pumps, etc. Made with threaded connection and stem to fit 3/16 inch air hose. Constructed of brass and steel. 25 in box.



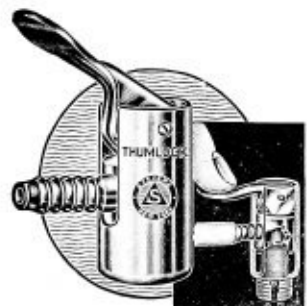
Perfection Pump Coupling. List Price Each.....\$.15

ACORN PUMP CONNECTION

A simple, universal type of Pump Connection that fits all valves. Acts by a washer being forced against valve forming an

air tight connection. Body one piece to insure long service. Packed 50 in box.

Acorn Pump Connection. List Price, Each.....\$.20

"THUMB-LOCK" PUMP COUPLING

Used as standard equipment on many leading tire pumps. Works as shown in illustration, locking when slipped over valve. Quick, positive, leak-proof. Washer may be easily renewed.

Thumb Lock Pump Connection. List Price, Each, \$.50

Packed 12 on neat counter display card.

ACORNETTE PUMP COUPLING

Very similar to the Acorn Pump Connection but made with a reduced barrel to prevent buckling of washer. Preferred by many to the regular Acorn Coupling.

Acornette Pump Connection. List Price, Each \$.20

Packed 10 on neat display card.

RED CORE ACORN WASHERS

Best quality tough red rubber—the finest quality washer for use on Acorn type Pump Connections. 100 in box.

Red Core Acorn Washers. List Price, per 100.....\$1.75

SCRADER DEFLATING CAP

PRICE
7 cts.
EACH.



REG.
U.S.
PAT. OFF.



For easy deflation of tires and tubes without removing valve insides.

Schrader Universal Valve Deflating Cap.

List Price, Each.....\$.07

TWITCHELL TIRE GAUGE

Particularly recommended for its locking device which makes the reading absolutely accurate. Figures are plainly marked in white on a black background. Easily read even in the dark by feeling the notches.

Counter Display Case

You can sell a dozen from this Display Card faster than half a dozen packed away on your shelves.

A handsome counter display case containing 12 individually boxed Twitchell Gauges furnished free of charge with all orders for 12 Twitchell Tire Gauges.

Twitchell Tire Gauges. List Price, Each.....\$1.50

3-IN-1 VALVE TOOL

A small, compact tire valve rethreading tool with valve cap, center guide reamer, and valve stem die.

3-in-1 Valve Tool. List Price, Each.....\$.25

4-IN-1 VALVE TOOL

Equipped with center guide, reamer valve tap, valve die, valve wrench, etc. A thoroughly practical tool.

4-in-1 Valve Tool. List Price, Each.....\$.35

A. & H. VALVE REPAIR TOOLS



No. 1



No. 2

Heavier tools principally used in tire repair shops, service stations, etc.

No. 1 Tool recuts outside valve stems, takes off hexagon nuts, removes broken plungers, and reams off rough nipples.

No. 2 Tool recuts inside plunger thread, outside lifter thread, takes out plungers. Absolutely impossible to cross threads. These tools are invaluable to the repair shop.

A. and H. Valve Repair Tools, either style.

List Price, Each.....\$1.50

HANSEN AUTOMATIC AIR VALVE

Model "C"



For use in garages, tire service stations, etc., for high pressure air line. Entirely automatic—by pressing valve on tire stem the air flows into tire, when valve is removed air automatically shuts off. Instantaneous in action and cannot leak as rubber washers do not come in contact with tire stem. As illustration shows, made with detachable stem replaceable at a list price of \$.25.

Hansen Automatic Air Valve, Model "C".

List Price\$2.50

HANSEN AIR VALVE PARTS



Rubber Washer



Valve Plunger

Interchangeable on all Hansen Automatic Air Valves.

No. 1 Rubber Washer. List Price.....\$.05

No. 2 Valve Plunger. List Price.....\$.30

HANSEN AUTOMATIC AIR VALVE

Model "D"



Identical in design with Model "C" excepting that it is furnished with a straight connection to hose. Especially

useful in vulcanizing shops, etc.

Hansen Model "D" Automatic Air Valve.

List Price\$2.50

HANSEN AUTOMATIC AIR VALVE

Model "E"—Double Duty



Constructed on the same principles as Models "C" and "D" except that it is equipped with two Automatic Valves, enabling the use of either one in inflating a tire. Rugged in construction and will stand extremely hard service.

Hansen Model "E" Automatic Air Valve.

List Price\$3.00

HANSEN VALVE STEMS FOR HANSEN AUTOMATIC AIR VALVES

These Stems are furnished to fit $\frac{3}{8}$ " and $\frac{1}{2}$ " hose. All stems are threaded $\frac{1}{4}$ " pipe thread. One Stem furnished with each Hansen Automatic Air Valve.



Hansen Valve Stems. List Price.....\$.25

HANSEN HOSE CLAMPS

For $\frac{1}{4}$ " and $\frac{3}{8}$ " Air Hose



As shown in illustration, this Clamp securely holds the hose in place under very high pressure. Cannot possibly leak or blow off. To attach, put clamp in place and slip collar over hose allowing hose to project about $\frac{1}{4}$ " beyond the end of the collar, then screw the stem into hose and tighten by turning up large nut. If hose is slightly undersized, wrap hose with a few turns of friction tape, allowing clamp to grip hose tightly.

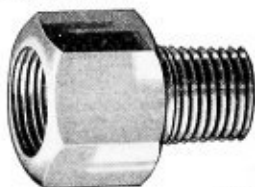
Hansen Hose Clamps for $\frac{1}{4}$ " Hose. List Price \$1.00

Hansen Hose Clamps for $\frac{3}{8}$ " Hose. List Price 1.20

HANSEN REDUCER

For Air Hose Lines

Saves the expense of buying an extra Air Valve. Reduces from $\frac{3}{8}$ " to $\frac{1}{4}$ " standard pipe thread.



Hansen Reducer. List Price.....\$.40

ROMORT AUTOMATIC AIR VALVE

Style "A"—Regular Stem



Price List of Parts

A. Body	\$1.50
B. Nut	40
C. Spring	05
D. Plunger	50
E. Gasket	05
F. Cap	50

special stems can be furnished to fit any style metallic hose.

All parts (except rubber gasket) guaranteed to wear one year without repair or replacement. Instantaneous in opening and closing, positively air tight. Impossible for users to waste air. Weight, 9 ounces. Packed in individual carton.

Romort Style "A" Air Valve. List Price.....\$3.00

ROMORT AIR VALVE

Style "B"—Regular Stem



Price List of Parts

No. 1. Body	\$.50
No. 2. Plunger	30
No. 3. Cap	50
No. 4. Gasket	05

device. Made of solid bronze one-piece casting, with universal stem to fit tubing 1/4-inch, 3/8-inch and 1/2-inch in diameter.

Absolutely automatic in opening and closing and guaranteed to be air tight. All parts are interchangeable. This is the simplest valve on the market, only one moving part. Weight 5 oz. Standard package of 50 weighs 19 lbs.

Romort Style "B" Air Valve. List Price.....\$1.25

ROMORT UNIVERSAL HOSE COUPLING

Style "2-E"



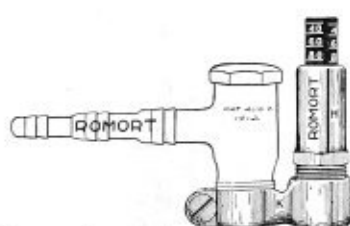
covered Hose is employed, these bushings need not be used. The action of the Romort Hose Coupling expands the end of the hose, the threaded nipple clamp, and hose tight—the harder the pull the tighter the grip.

Romort Style "2-E" Universal Hose Coupling.
List Price\$1.25

The most popular valve for heavy work. Solid bronze, practically indestructible. The step-up stem fits any size rubber tubing from one-quarter to one-half inch. Special

ROMORT TIRE TESTER ATTACHMENT

Style "A"



This Tire Tester Attachment is the only one of its kind on the market. To operate, simply slip the gauge manufactured by A. Schrader's Son, Inc., into the holder and you have a tire tester and tire inflater combined. The old trouble of losing the gauge is permanently ended.

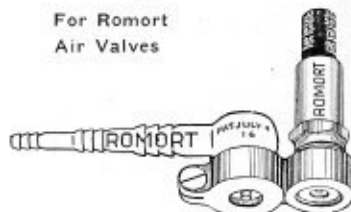
We furnish the attachment only, and one should be used with each Romort Automatic Air Valve. Romort Style "A" Tire Tester Attachment.

List Price\$1.50

ROMORT TIRE TESTER ATTACHMENT

Style "B"

For Romort
Air Valves



The Type "B" Tire Tester Attachment is intended for use on the Romort Style "B" Automatic Air Valve.

Every dealer, garage or tire repair shop needs at least one of these devices. The Romort Attachment is the only device on the market which will hold this gauge.

To install, merely unscrew the cap on the valve, screw on the attachment and slip in the gauge. Romort Style "B" Tire Tester Attachment.

List Price\$1.50

ROMORT RUBBER WASHERS

For Valves and Pump Connections



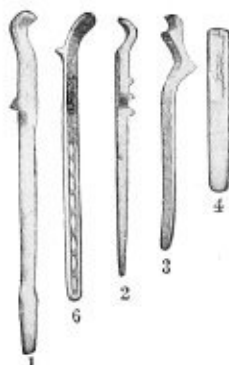
Made of especially compounded rubber to fit all pump connections. Air tight under all pressures. Slip easily on the valves and cannot blow off or turn inside out. Packed twelve washers to the carton.

Romort Rubber Washers. List Price, per carton \$.30

If you do not see EXACTLY what you want on these pages—write us: we will get it for you IF it is made.

TIRE TOOLS

Carried in a variety of styles for use on all types of rims or tire beads.



Tire Tool No. 1, length 16".	List Price.....	\$.75
Tire Tool No. 2, length 12".	List Price.....	.45
Tire Tool No. 3, length 11".	List Price.....	.60
Tire Tool No. 4, length 7 3/4".	List Price.....	.25

MIQUE'S TIRE TOOL



A strong, serviceable tool that will handle any style of rim or tire.

List Price, Each.....\$.25

TREX RIM COMPRESSOR

For all sized split rims



A simple positive acting rim tool which unlocks, compresses, or expands the rim as desired. Operates on same principle as a jack with no screws or clamps to adjust. Made of malleable iron; light, strong, and durable. Will remove any tire from the rim in a moment regardless of how badly rusted the rim may be. Equally valuable to the garage, tire repair man or motorist.

Trex Rim Compressor. List Price.....\$6.00

PRY BARS



Very useful in removing rusted on tires from the rim. Hand-forged octagon steel. Length 14".

Diameter Octagon Steel.	List Price, Each
3/8"	\$.40
7/16"	50
1/2"	60

PERFECT HANDLE TIRE TOOL



Invaluable to the motorist or repair man. Drop forged steel with varnished hardwood handle firmly riveted on. Length 13 1/2", width 1", thickness 1/2", point is slightly curved and tapered to 1/16" in thickness.

Perfect Handle Tire Tool. List Price, Each.....\$1.10

SCHURMAN RIM COMPRESSOR

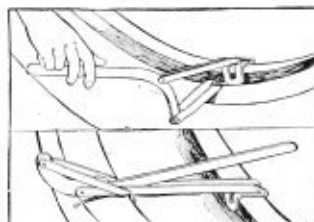
For All Split Rims.



Fits all sized split rims. Built by a practical tire repair man for quickly and easily removing tires, regardless of whether rim is bent or tire is rusted on. Works on the simple lever or fulcrum principle. Adjustable to every sized rim. Equally useful to the motorist, garage, or tire repair man.

Schurman Rim Compressor. List Price.....\$4.00

WOODWORTH TIRE SPREADER



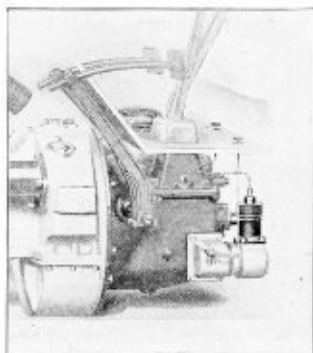
For spreading the smallest or the largest pneumatic tires up to 48" x 12". Equipped with convenient locking device that locks the tire spread open enabling quick examination and repair. Consists of a double lever arrangement. Made of steel with long lever handle. Made in Two sizes, Small Size for tires up to 5" inclusive. Large Size handling the largest size pneumatic truck tires. Recommended by the Godyear Tire and Rubber Company to all their service stations.

Woodworth Tire Spreader, small size for tires up to 5 inches. List Price.....\$1.50

Woodworth Tire Spreader, large size for all pneumatic truck tires. List Price.....\$5.00

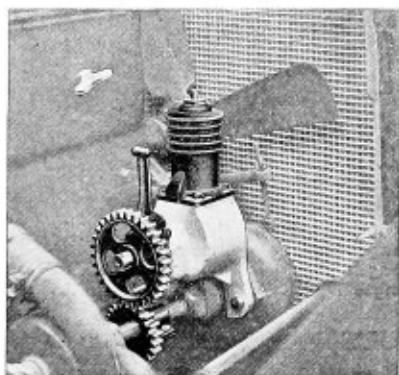
KELLOGG PUMPS

Electro No. 1



Typical Transmission Installation

Electro No. 2



Typical Motor Installation

DESIGNED for durability and efficiency, the value of the Kellogg power tire pump equipment to the car owner cannot be overestimated. The majority of cars not carrying Kellogg pumps as regular equipment have transmissions with openings prepared for the easy attaching of the Kellogg pump. The price of the Kellogg Engine-Driven Tire Pump Equipment, with all fittings, brackets and necessary gears, together with a fifteen foot hose and gauge, packed in a sealed carton with full instructions for installing, is \$18.00.

Name of Car	Model of Car	Model of Pump	Installed on	Inter-changeable Outfits	List Price
Auburn	6-39 1918-19	201	Transmission	.....	\$18.00
Auburn	6-44 1918	201	Motor	.....	18.00
Buick	D-E 34-35	101	Motor	.....	18.00
Buick	D-E-H 44-45-46-47-49-50	201	Motor	.....	18.00
Chalmers	35-6-30	101	Transmission	.....	18.00
Chandler	Series 14-15-16-17-18-19	101	Motor	.....	18.00
Chevrolet	4-90	201	Motor	.....	18.00
Chevrolet	Model FB	201	Transmission	.....	18.00
Columbia	6 1918-19	201	Motor	.....	18.00
Davis	6-H 1918-19	201	Motor	.....	18.00
Dodge	All Models	221	Crank Shaft	A	18.00
Ekar	6 1918-19	201	Transmission	.....	18.00
Elgin	Series H 1918	201	Transmission	.....	18.00
Empire	70-72	201	Motor	A	18.00
Hudson	Super Six	201	Transmission	.....	18.00
Interstate	6	201	Motor	A	18.00
Jordan	1918-19	201	Transmission	.....	18.00
Klein	6-38 6-42	201	Motor	A	18.00
Maibohm	6	201	Transmission	.....	18.00
Monitor	6	201	Transmission	.....	18.00
Moon	6-66 1918	201	Motor	B	18.00
Moon	6-45 1918	201	Motor	A	18.00
Nash	1918-19	201	Transmission	.....	18.00
Oakland	34-B 1918	201	Transmission	.....	18.00
Oakland	34-B 1919	201	Transmission	A	18.00
Oldsmobile	M-T Delivery Wagon	201	Transmission	.....	18.00
Oldsmobile	8-44-45 1918-19	201	Transmission	.....	18.00
Overland	85-4	201	Transmission	.....	18.00
Overland	75 75-B	221	Motor	.....	18.00
Overland	90	221	Crank Shaft	.....	15.00
Paige	6-38 17, 6-39 18-19	201	Crank Shaft	.....	15.00
Paterson	6-45 18, 6-46 19	201	Transmission	.....	18.00
Premier	6- 1 to 1970	201	Motor	A	18.00
Premier	6- 1970 and Up	201	Transmission	.....	18.00
Reo	5th and 1 ton truck including '17	101	Transmission	.....	18.00
Reo	Four cylinder 1918-19	131	Motor	.....	18.00
Reo	Speed Wagon 1918-19	101	Motor	.....	18.00
Reo	Six Cylinder 1917-18	101	Motor	.....	18.00
Stearns	4-1918	221	Crank Shaft	.....	15.00
Stearns	Model 1920	201	Transmission	.....	18.00
Studebaker	Series 16, 1915	101	Motor	.....	18.00
Studebaker	Series 17-18, 1916-17	101	Motor	.....	18.00
Studebaker	1 ton Truck 1917	101	Motor	.....	18.00
Velie	6-38 1918-19	201	Motor	A	18.00
Velie	6-39 1918-19	201	Motor	B	18.00
Westcott	18	201	Motor	B	18.00

A—These Cars have 7-W Continental Motors and the Outfits are interchangeable.
 B—These Cars have 7-N Continental Motors and the Outfits are interchangeable.
 C—These Cars have Grant Lees transmissions and the Outfits are interchangeable.
 D—These Cars have Mechanics transmissions and the Outfits are interchangeable.
 Outfits on the same line are interchangeable.

CASSCO TIRE PUMP

ENGINE DRIVEN

\$18



**Complete
With All
Fittings**

DESIGNED BY EXPERT ENGINEERS

The Cassco Pump, designed by expert and mechanical engineers, is the best pump regardless of cost. The West Side Foundry Company, one of the largest producers of grey iron castings in the United States, by modern production methods and by making 99.2% of the Pump in their own shops, have been able to produce a pump of the highest quality to sell at a popular price.

The Cassco Pump is not assembled; it is actually built. Only hose, gauge and two small stampings are purchased.

DRY AIR; NO OIL SPRAY

The air from the Cassco Pump is dry and clean. The Cassco design of piston and cylinder prevents oil spray.

The Cassco Pump will inflate a 34x4 inch tire to 80 pounds in a minute and a half. Small tires take proportionately less time.

Each Cassco Pump is packed in a wooden box containing hose, gauge, necessary fittings, including brackets, gears, nuts, bolts, etc., with diagram of installation and complete instruction.

In ordering be sure to specify make, model and year of car. **PRICE \$18.00 complete with all fittings.** The Cassco Pump has been adapted for installation in the following cars. Additional installations will be perfected from time to time:

No.	Car	Model and Year.
1.	Abbott Detroit.....	1917-18.
1.	Anderson.....	1916-17-18 & 400 A-C-D-E 1919.
45.	Anderson.....	400-G 1919.
1.	Auburn.....	1915-16-17-18.
1.	Bour Davis.....	1917-18-19.
2.	Buick.....	C-24, C-25 1915.
3.	Buick.....	C-37, C-38 1915.
4.	Buick.....	U-55 1915.
5.	Buick.....	All D, E & H 6 cyl. Models 1916-17-18-19.
6.	Buick.....	D-34-35, E-34-35.
45.	Case.....	C 1919.
7.	Chandler.....	6 cyl. 1915-16-17-18-19.
8.	Chevrolet.....	H-4, H-2½ 1915-16.
9.	Chevrolet.....	490, 1915-16-17-18-19.
1.	Columbia.....	1916-17-18-19.
1.	Davis.....	F & G 1916, I & J 1917-18-19, H 1915.
1.	Detroit.....	1917-18-19.
1.	Empire.....	6 cyl. 1916-17-18-19.
12.	Ford.....	1917-18-19 All Models.
19.	Ford Super Six.....	1916-17-18.
39.	Interstate.....	1917-18-19.
45.	Jones.....	28-1919.
45.	Jordan.....	1919.
20.	Kissel.....	4-32 1916-17.
21.	Kissel.....	6-38 1917, 100 point 1918-19.
1.	Kline.....	1916-17-18-19.
1.	Lexington.....	1917-18-19.

No.	Car	Model and Year.
1.	Marion Hanley.....	Continental Motor 1916-17-18-19.
22.	Maxwell.....	1916-17-18-19 without Atwater-Kent ignition.
23.	Maxwell.....	1917-18 with Atwater-Kent ignition.
1.	Moon.....	6-30, 6-40 1916, 6-4J 1917, 6-44 1918.
45.	Moon.....	6-66 1919.
45.	National.....	A-F-3 1919.
24.	Overland.....	80-81-83, 1914-15.
25.	Overland.....	83-B 1916.
26.	Overland.....	75 1916.
27.	Overland.....	85-4 1917-18.
28.	Overland.....	85-6 1917.
45.	Paige.....	6-35 1919.
1.	Patterson.....	6 cyl. 1916-17-18-19.
29.	Reo.....	4 cyl. 1915-16-17-18-19.
45.	Roadster.....	6-54 1919.
30.	Stutz.....	4 cyl. 1914-15-16-17-18-19.
1.	Velie.....	1916-17-18, Mod. 38 1919.
45.	Velie.....	39 1919.
1.	Westcott.....	1915-16-17-18.
45.	Westcott.....	18-A 1919.
36.	Willys-Knight.....	4 cyl. 1916.

NO. 41 TRANSMISSION INSTALLATION.

Scripps-Booth Six 1919.
Oakland Sensible Six 1918-19.
Oldsmobile Truck

Special Outfit



Ford Cars

ANTHONY TIRE PUMP



A single cylinder pump that easily handles the largest tire. Large, rigidly fastened handle. While the pump has but one cylinder, its construction makes its operation far easier and more efficient than many higher priced two or three cylinder pumps. Barrel seamless steel tubing neatly lacquered. Piston rod extra heavy. Valves all metal, cannot get out of order. Made in two sizes.

No. A-1 Anthony Tire Pump. $1\frac{1}{2}$ " x 17".

List Price\$4.50

No. A-2 Anthony Tire Pump, $1\frac{1}{2}$ " x 20".

List Price\$4.50

RED WONDER TIRE PUMP

Single cylinder, single-acting, very easy in operation. Barrel seamless style, enamelled red with malleable base and steel plunger rod. All fittings brass. Equipped with all brass check valve than cannot wear out. Made in two sizes.

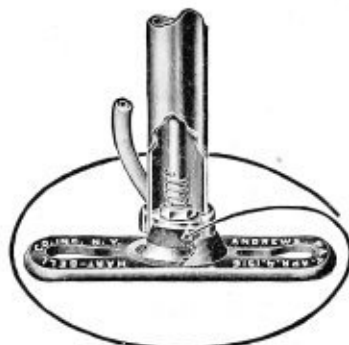
Regular, $1\frac{1}{4}$ " diameter; stroke 20"; length over all 23". Short, or Ford size, fits any standard Ford tool box. Barrel diameter $1\frac{1}{4}$ "; stroke 17"; length over all 20".



Red Wonder Regular Tire Pump. List Price.....\$4.00

Red Wonder Ford Tire Pump. List Price..... 4.00

HARTBELL TIRE PUMP



Single cylinder, single-acting. Will outlast the car itself. Made with specially constructed washer (see illustration) which operates against cap shaped expander, insuring against leakage in barrel. Barrel seamless steel tubing, rust-proof finish and heavy malleable base; 30" hose connection. Made in two sizes. Regular with 20" barrel. Special Ford size which fits 20 $\frac{3}{4}$ " Ford tool box.

Hartbell Pump, Regular Size. List Price.....\$4.50

Hartbell Pump, Ford Size. List Price..... 4.50

SUNDERLAND PUMPS



3 Cyl.



2 Cyl.



1 Cyl.

Made with a five year guarantee, (dented barrel and hose excepted.) Barrel seamless steel with solid brass piston, and special shaped leather washer. Made with one, two, or three cylinders. Single Action. Handle rigidly fastened.

Sunderland Special—Single Cylinder

Single action. $1\frac{1}{4}$ " diameter. Length over all 24". Length of hose 25". Malleable base, specially designed washer and valves. Neatly finished in polished nickel plate.

Sunderland Special Pump. List Price, Each \$4.00

No. 2—Two Cylinder Pump

Double action. Diameter $1\frac{1}{4}$ " and $1\frac{3}{4}$ ". Stroke 18". Length over all 22". Length hose 20". A sturdy, practical two cylinder Pump. Cylinders black enamelled with cast base.

No. 2 Sunderland Pump, 2 Cyl. List Price.....\$3.00

No. 3—Three Cylinder Pump

A powerful, quick-acting Pump. Maximum efficiency with maximum effort. Top easily removable. Three cylinders. Diameter $1\frac{1}{4}$ " and $1\frac{3}{4}$ ". Stroke 19". Black enamel with cast base. Length over all 22". Length hose 25".

No. 3 Sunderland Three Cylinder Pump.

List Price\$5.25

E-Z-QUICK TIRE PUMP

Single cylinder, single acting with small diameter cylinder for high pressure with little effort. Equipped with folding wire foot base. Barrel $1\frac{1}{4}$ " diameter, nickel plated with $\frac{3}{8}$ " steel piston rod and strong hardwood handle. Extra heavy pump washers. Hose length 22".

Made in two sizes. Regular 25 $\frac{1}{2}$ " long. Junior, 21 $\frac{3}{4}$ " long. Junior size fits in Ford tool box.



E-Z-Quick Regular Tire Pump. List Price, Each \$3.50

E-Z-Quick Junior Tire Pump. List Price, Each 2.50

**BLUE DEVIL TIRE PUMP**

Single cylinder, single action. Seamless steel barrel with strong cast base. Cylinder diameter $1\frac{1}{2}$ " stroke 17"; length over all 20"; plunger heavy steel rod with high grade valves. Strong handle; 30" hose with screw connection. Handle handsomely finished in blue enamel and brass.

Blue Devil Tire Pump. List Price, Each.....\$3.50

**KELLOGG COMPOUND PUMP
Two Cylinder**

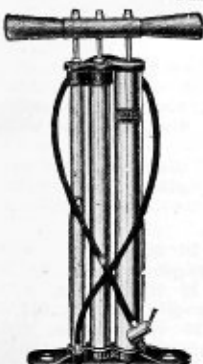
A powerful two cylinder Pump which easily inflates the largest tire. Cylinders seamless brass tubing with heavy cast base and extra long handle. Cylinder natural brass finish. Base lacquered. Hose length 20". Special adjustment provided on stuffing box. Equipped with thumb lock valve connection.

No. 8 Kellogg Compound Pump. List Price.....\$5.00

**VICTOR TIRE PUMP
Three Cylinder**

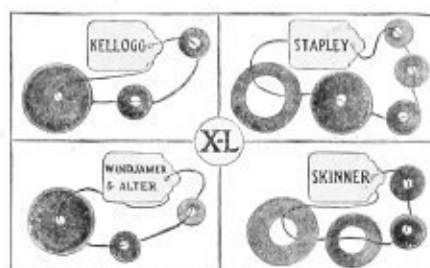
Made of seamless brass tubing neatly lacquered with heavy cast base. Height over all 22". Stroke 17". Cylinder diameters $1\frac{1}{4}$ ", $1\frac{1}{4}$ ", $\frac{3}{4}$ ". Heavy steel with extra strong washers. Hose length 24". A powerful, easy operating pump.

Victor 3 cyl. Tire Pump. List Price.....\$6.00

**KELLOGG SPECIAL COMPOUND PUMP
Three Cylinder**

The most powerful and easiest working tire pump of its capacity on the market. Down stroke only pumps air, making its operation much easier. Cylinders seamless brass tubing nickel plated with large cast base. Washers guaranteed for long service and easily replaceable if necessary. Extra large handle. Equipped with 36" air hose, and thumb lock valve connection.

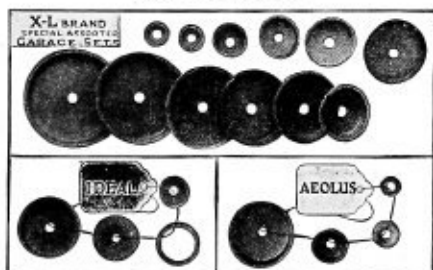
Kellogg Special Compound Pump. List Price.....\$7.00

**LEATHER PUMP WASHERS
In Sets**

Made of specially treated leather for use in all makes of tire pumps. Carried in boxes of 100 of one size, also in complete sets fitting a particular make of tire pump. For those desiring an assortment of washers of various sizes, we recommend the "X L" Garage Assortment consisting of 100 assorted leather washers.

No.	Pump Fits	List Price Per Set
1	Stapley	\$.20
2	Brown Impulse	.32
3	Imperial Wixon	.13
4	Aeolus	.14
5	Nos. 99 and 50.	.75
6	Kellogg	.14
7	Rex	.14
8	Skinner	.14
9	Noera Senior	.30
10	Noera Junior	.35
11	Noera Ideal	.12
12	No. 14 Pioneer.....	.12
13	Kellogg Engine Dr.	.43
14	Eureka and Triplex	.20
15	J and L Victor.....	.16
16	New Stapley	.16
17	Windjammer and Atlas	.12
18	Pitner	.08
19	Hercules	.15
20	Thor	.14
21	OK Triple	.20
22	Kellogg 3 cylinder	.27
23	Brisk Blast	.11
24	Triumph Motor No. 3.....	2.30
25	Rose 1 cylinder	.08
26	Rose 2 cylinder	.12
27	Hy Duty	.14
28	Springfield	.06
29	Golden Rod	.07
30	Mayo Compound	.15
31	Mayo Single Action	.07
32	Skinner Compound	.16
33	E-Z Quick	.12
34	Cyclone	.12
35	Sunderland 2 cylinder	.07

"X L" PUMP LEATHER WASHER ASSORTMENT



100 Best selling assorted sizes in box. List Price \$3.00

PUMP LEATHER WASHERS In Bulk

Size	List Price per 100	Size	List Price per 100
1/4"	\$ 3.20	1 1/2"	4.80
1/2"	3.20	1 3/4"	6.40
5/8"	2.60	2"	8.60
3/4"	2.60	2 1/4"	17.40
7/8"	2.80	2 1/2"	28.00
1"	3.00	2 3/4"	34.00
1 1/8"	3.40	3"	36.60
1 1/4"	3.60	3 1/2"	42.80
1 3/8"	4.00		

VITALIC ARMORED AIR HOSE



Extra thick heavy Armored Air Hose for use on high-pressure air lines. Hose is made of 5 layers of extra strong fabric surrounded by best quality rubber. The hose is reinforced on the outside by a wide spiral strip of non-rusting sheet metal. Will outlast many times the ordinary air hose, as

even the weight of a heavy car cannot damage it. Made in three sizes: 25, 30, 40, and 50 ft. lengths only, not cut.

Inside diameter 1/4", 5 ply. List Price, per ft. \$.36
 Inside diameter 5/16", 5 ply. List Price, per ft. \$.40
 Inside diameter 3/8", 5 ply. List Price, per ft. \$.45

HEAVY AIR HOSE Unarmored

An extra heavy high pressure Air Hose for use in garages where hard service is to be expected. Five ply heavy fabric with extra thick rubber made to withstand the hardest service. 25 and 50 ft. lengths only.

Inside diameter 1/4", 5 ply. List Price, per ft. \$.28
 Inside diameter 5/16", 5 ply. List Price, per ft. \$.35
 Inside diameter 3/8", 5 ply. List Price, per ft. \$.40



GASOLINE HOSE COUPLINGS

Specially made to handle gasoline with carefully fitted seats.

Couplings for Gasoline Hose 3/4". List Price \$2.60
 Couplings for Gasoline Hose 1". List Price 3.75

TIRE PUMP HOSE



Best quality Tire Pump Hose suitable for use on either engine driven pumps or ordinary foot pumps. We sell annually thousands of feet of this

Hose without a complaint. Three ply fabric. 12 ft. lengths only.

Inside diameter 3/16". List Price, per ft. \$.18
 Inside diameter 1/4". List Price, per ft. \$.20
 Inside diameter 5/16". List Price, per ft. \$.24
 Inside diameter 3/8". List Price, per ft. \$.27

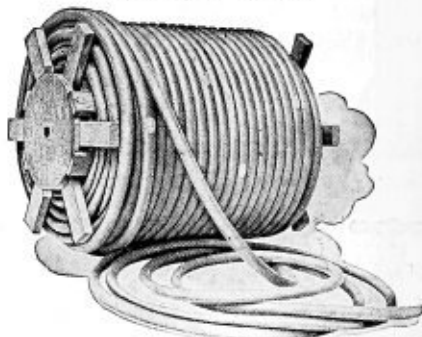
PUMP HOSE CLAMPS



Carried in 7/16", 1/2", or 5/8" sizes.

Pump Hose Clamps. List Price, Each \$.04

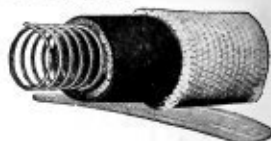
WATER HOSE



High grade kinkless water hose for garage use. Flexible, but as its name implies will not buckle. Three ply canvas fabric insert with thick rubber wall inside and out. 3/4" inside diameter. Any length desired. Prices do not include couplings. Kinkless Water Hose. List Price, per ft. \$.35

GASOLINE HOSE

Will stand the hardest service. Constructed of a flexible wound steel tube with strong packing wound in the joints; then covered with a specially compounded rubber. A close woven long fibre cotton fabric is then vulcanized over the rubber and metal tube, making a strong, long-lived, Gasoline Hose, which will stand a great deal of abuse without injury.



Made in two sizes, 3/4" and 1" diameters, and carried in stock in 10 and 12 ft. lengths; other lengths on special order only. Complete with couplings ready for use.

Gasoline Hose, 3/4" diameter, 10 ft. lengths, with couplings. List Price, per length \$11.00
 Gasoline Hose, 3/4" diameter, 12 ft. lengths, with couplings. List Price, per length \$12.00
 Gasoline Hose, 1" diameter, 10 ft. lengths, with couplings. List Price, per length \$13.00
 Gasoline Hose, 1" diameter, 12 ft. lengths, with couplings. List Price, per length \$15.50

RADIATOR HOSE Continental Erie



Made to withstand the action of heat, water, steam, or oil. Carried in stock in all sizes from 1" to 3 1/2" inside diameter. 3 ft. lengths only, not cut.

per 3 ft. length		per 3 ft. length	
Inside Diam.	List Price	Inside Diam.	List Price
1"	\$.60	2"	\$1.64
1 1/8"	1.01	2 1/8"	1.73
1 1/4"	1.11	2 1/4"	1.83
1 3/8"	1.17	2 3/8"	1.92
1 1/2"	1.26	2 1/2"	2.01
1 5/8"	1.35	2 5/8"	2.15
1 3/4"	1.44	2 3/4"	2.27
1 7/8"	1.53	3"	2.52

WELDING HOSE



Specially compounded to overcome the action of oxygen which tends to rot ordinary rubber. Five ply with heavy rubber covering guaranteed to stand 250

lbs. pressure. Has double the life of ordinary hose for this purpose.

Welding Hose. List Price, per ft. .24

HOSE CLAMPS



Made of steel heavily galvanized to prevent rusting. Cannot buckle or cut hose. Packed 100 of one size in box. Carried in the following sizes:

Size of Clamp	List Price per 100	Size of Clamp	List Price per 100
3/8"	\$6.00	2 1/4"	\$ 9.30
7/8"	6.15	2 3/8"	9.60
1"	6.45	2 1/2"	9.90
1 1/8"	6.75	2 5/8"	10.20
1 1/4"	7.00	2 3/4"	10.50
1 3/8"	7.35	2 7/8"	10.80
1 1/2"	7.50	3"	11.25
1 5/8"	7.80	3 1/4"	11.40
1 3/4"	8.10	3 1/2"	11.70
1 7/8"	8.40	3 3/4"	12.00
2"	8.70	4"	12.75
2 1/8"	9.00	4 1/2"	13.50

IDEAL HOSE CLAMP ASSORTMENTS



The best way of showing Hose Clamps in the garage or accessory store, as well as being a convenient method of keeping your Hose Clamp stock always complete.

Assortment No. 100

Consists of ten each of the following ten sized clamps.

10	1 1/4"	Clamps	10	2"	Clamps
10	1 3/8"	Clamps	10	2 1/8"	Clamps
10	1 1/2"	Clamps	10	2 1/4"	Clamps
10	1 5/8"	Clamps	10	2 3/8"	Clamps
10	1 3/4"	Clamps	10	2 1/2"	Clamps
10	1 7/8"	Clamps	10	2 5/8"	Clamps

This assortment will take care of practically all pleasure car radiator hose connections.

No. 100 Ideal Hose Clamp Assortment.

List Price \$12.00

No. 180 IDEAL HOSE CLAMP ASSORTMENT

10	5/8"	Clamps	10	1 3/4"	Clamps
10	3/4"	Clamps	10	1 7/8"	Clamps
10	7/8"	Clamps	10	2"	Clamps
10	1"	Clamps	10	2 1/8"	Clamps
10	1 1/8"	Clamps	10	2 1/4"	Clamps
10	1 1/4"	Clamps	10	2 3/8"	Clamps
10	1 3/8"	Clamps	10	2 1/2"	Clamps
10	1 1/2"	Clamps	10	2 5/8"	Clamps
10	1 3/4"	Clamps	10	2 3/4"	Clamps

Total 180 Clamps

This assortment enables the repair shop or accessory store to carry a sufficient range of sizes to handle practically everything from the tire pump hose clamp up to the large radiator hose clamp.

No. 180 Ideal Hose Clamp Assortment.

List Price \$18.00

GENERATOR TUBING



Best quality soft red rubber that will not harden or dry out.

Packed 50 ft. in a box. Carried in two weights.

3/16" x 1/16". List Price, per ft. \$.18
3/16" x 1/8". List Price, per ft. .09

RUBBER LAMP CONNECTONS



Moulded of high quality red rubber. Packed 1 doz. in box.

Rubber Lamp Connections. List Price, Each \$.15

SUPERIOR CEMENTLESS TUBE PATCHES



Made of high grade Para rubber with tapered edges, one side of patch consisting of specially prepared self-vulcanizing rubber requiring no cement. Unvulcanized side of patches is protected by glazed cloth preventing drying out or sticking. Packed 12 assorted sizes in convenient screw top boxes. Superior Cementless Tube Patches.

List Price, per box.....\$.50

JOHNSON'S "HASTEE" PATCH



For tube and tire repairs. Repairs small punctures or blowouts in tubes and cuts in casings. No heat necessary. A few moments and the repair is made. Made in three sizes and packed in convenient screw top boxes. Small size makes 25 average patches; medium sizes 75 patches, garage size 300 patches.

Johnson's "Hastee" Patch Outfit Small size.

List Price.....\$.50

Johnson's "Hastee" Patch Outfit Medium size.

List Price.....1.00

Johnson's "Hastee" Patch Outfit Garage size.

List Price.....\$3.00

TIRE DOH



As the name implies is a self-curing rubber for repairing tubes and cuts in casings. With self-curing, no heat required. Inexpensive, well advertised, and a large seller.

Tire Doh, Large Sized Outfit. List Price.....\$1.00

Tire Doh, Small Sized Outfit. List Price......50

LOCKTITE AUTO-NEWMATIC PATCHER



Consists of a tube of rubber cement and generous sized sheet of Locktite patching rubber with special clamp as illustrated. The easiest way of repairing blow outs or punctures. Packed in convenient screw top can.

No. 5 Auto-Newmatic Patcher. List Price Each \$1.25

LOCKTITE TUBE PATCH OUTFIT



Consists of a tube of special cement with a sheet of Locktite patching rubber. Self-curing, no heat required. Forms a permanent repair. End of container box is covered with emery for roughening tube.

No. 3 Locktite Outfit. List Price, Each.....\$1.50

No. 2 Locktite Outfit. List Price, Each.....1.00

No. 0 Locktite Outfit. List Price, Each.....2.00

MICHELIN MASTIC



A quick hardening dough-like cement for filling in cuts in casings and repairing punctures in tubes. Self-curing, requires no vulcanizing. Put up in 2 oz. tins.

Michelin Mastic. List Price, per can.....\$.40

VULCO TUBE PATCHES



Best quality self-curing tube gum that will permanently repair punctures or small cuts in tubes. Packed in rolls in screw top containers with tube of self-curing cement. Sticky side in covered with glazed cloth to prevent adhering. Put up in three sizes.

No. 1 Vulco Tube Patch Outfit, with 36 sq. in. rubber.

List Price, Each.....\$.50

No. 2 Vulco Tube Patch Outfit, with 81 sq. in. rubber.

List Price, Each.....1.00

No. 3 Vulco Tube Patch Outfit, with 132 sq. in. rubber.

List Price, Each.....1.50

VALVE BASES



Made of high grade rubber and fabric. Strong and serviceable.

No. 1 6 3/4" x 2 7/8". List Price, Each.....\$.20

No. 2 5 1/2" x 2 1/8". List Price, Each......15

No. 3 5 3/4" x 2 1/8". List Price, Each......14

Packed one dozen in box.

HEAT VULCANIZING CEMENT



A high quality pure gum vulcanizing cement for use in repairing tires and tubes. This cement is intended for use in tire repair shops, etc. Carried in the following sizes.

1/2 Pt. Can.	List Price, Each	\$.35
1 Pt. Can.	List Price, Each	.60
1 Qt. Can.	List Price, Each	1.00
1 Gal. Can.	List Price, Each	3.50

MICHELIN TUBE CEMENT



A pure gum cold cement for tube repairing.

Michelin Tube Cement, one pt. cans.	List Price, Each	\$.85
Michelin Tube Cement, 1/4 pt. cans.	List Price, Each	.25
Michelin Tube Cement, 2 oz. tubes.	List Price, Each	.13
Michelin Tube Cement, 1 oz. tubes.	List Price, Each	.10
2 oz. size packed in unit Counter Display Containers of 12 tubes. Furnished free with orders for 12 tubes.		

TUBE REPAIR STOCK



No. 2690 Combination stock 1/16" thick. Consists of a pure gum stock one side only cured. For use in repairing tubes with heat vulcanizer.		
No. 2690 Tube Repair Stock, 1/4 lb. boxes.	List Price, Each	\$.60
No. 2690 Tube Repair Stock, 1/2 lb. boxes.	List Price, Each	1.00
No. 2690 Tube Repair Stock, 1 lb. boxes.	List Price, Each	1.90
1568 Tube Repair Stock for Outside tube and tire repairs. Pure gum 1/16" thick. Packed in screw top boxes.		
No. 1568 Tube Stock, 1/4 lb. boxes.	List Price, Each	\$.50
No. 1568 Tube Stock, 1/2 lb. boxes.	List Price, Each	.95
No. 1568 Tube Stock, 1 lb. boxes.	List Price, Each	1.80

TIRE DISPLAY RACK



A handsome solidly built steel rack which will accommodate from 20 to 40 tires, depending on size. As shown in illustration, it is six feet three inches long and will handle any size tire from 28 x 3 to 38 x 5 1/2. Mounted on steel castors, making it easy to move about the floor. Its compact design allowing for two rows of tires, one above the other, makes it the best and most inexpensive way of handling tires in the garage or accessory store. Neatly finished in black enamel. The lowest priced tire rack on the market.

Tire Display Rack, List Price	\$16.50
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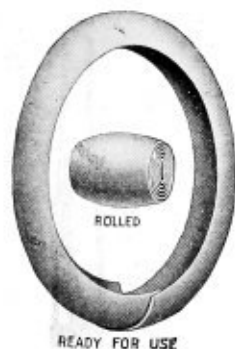
TIRE DISPLAY STAND

A neat stand for displaying tires to the best advantage in the store windows. Owing to their awkward shape tires are difficult to display well. This stand consists of two jaw brackets holding one tire. Finished in black or polished nickel plate.



Tire Display Stand, No. 205, Nickel plated.	
List Price	\$5.00
Tire Display Stand, No. 206, Black enameled.	
List Price	2.50

TIRE RELINERS



For insertion in badly worn or weak casings. Frequently enable 1000 to 2000 miles more service from a weak or damaged casing. Made of best quality long fibre cotton fabric three or four ply, layers of fabric being securely cemented with pure gum cement. Made in all sizes.

Three-Ply

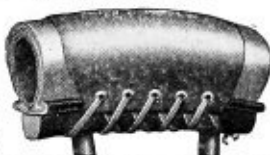
Size	List Price Each
30 x 3.....	\$3.15
30 x 3 1/2.....	3.75
31 x 3 1/2.....	4.00
32 x 3 1/2.....	4.15

Four-Ply

Size	List Price Each
31 x 4.....	\$3.75
32 x 4.....	5.10
33 x 4.....	5.50
34 x 4.....	5.70
33 x 4 1/2.....	5.70
34 x 4 1/2.....	6.00
35 x 4 1/2.....	6.60
36 x 4 1/2.....	6.75
34 x 5.....	7.15
35 x 5.....	7.50

RUBBER LACE-ON TIRE BOOTS

Made of heavy molded fabric and rubber the exact shape of tire. Extra strong and fitted with reinforced eyelets with raw hide lacing. A dependable tire sleeve for emergency blow-outs or temporary hard service. Complete with raw hide laces.



cuts which will withstand temporary hard service. Complete with raw hide laces.

Lace-On Tire Boots for 3" Tires.	
List Price, Each.....	\$.90
Lace-On Tire Boots for 3 1/2" Tires.	
List Price, Each.....	1.00
Lace-On Tire Boots for 4" Tires.	
List Price, Each.....	1.15
Lace-On Tire Boots for 4 1/2" Tires.	
List Price, Each.....	1.25

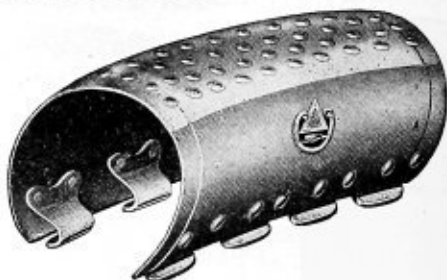
INSIDE TIRE PLASTERS



For small breaks, punctures etc. One size 5 1/2" x 7" fits all tires. Made of high grade canvas and rubber, one side semi-cured making it adhere to tire wall.

Inside Tire Plasters. List Price Each.....	\$.25
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LEATHER HOOK-ON TIRE BOOTS



Made of high quality chrome-tanned leather and studded with heavy rivets for extra long service. Made to fit clincher and straight side tires.

In ordering specify whether for clincher or straight side type tires.

Leather Hook-On Tire Boots for 3" Tires.	
List Price, Each.....	\$.90
Leather Hook-On Tire Boots for 3 1/2" Tires.	
List Price, Each.....	1.00
Leather Hook-On Tire Boots for 4" Tires.	
List Price, Each.....	1.15
Leather Hook-On Tire Boots for 4 1/2" Tires.	
List Price, Each.....	1.25
Leather Hook-On Tire Boots for 5" Tires.	
List Price, Each.....	1.35

RUBBER HOOK-ON TIRE BOOTS



Made of best quality rubber and fabric molded to exact shape of tire. Will handle bad blowouts or cuts and withstand hard emergency service.

In ordering specify for clincher or straight side tire.

Rubber Hook-On Tire Boots for 3" Tires.	
List Price, Each.....	\$.75
Rubber Hook-On Tire Boots for 3 1/2" Tires.	
List Price, Each.....	.90
Rubber Hook-On Tire Boots for 4" Tires.	
List Price, Each.....	1.00
Rubber Hook-On Tire Boots for 4 1/2" Tires.	
List Price, Each.....	1.15
Rubber Hook-On Tire Boots for 5" Tires.	
List Price, Each.....	1.25

INVINCIBLE INSIDE TIRE PATCHES

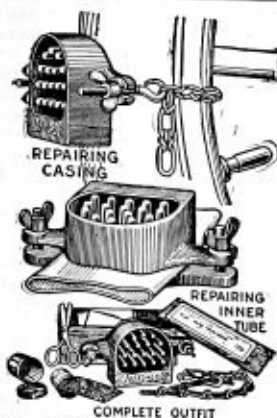
Made of several plies of high quality fabric securely cemented together and molded to exact shape of tire. Unequalled for repairing weak casings or small blow outs. Frequently used in connection with tire boots.

NOTE
6 PLY



Invincible Inside Tire Patches, for 3" Tires.	
List Price, Each.....	\$.50
Invincible Inside Tire Patches, for 3 1/2" Tires.	
List Price, Each.....	.60
Invincible Inside Tire Patches, for 4" Tires.	
List Price, Each.....	.75
Invincible Inside Tire Patches for 4 1/2" Tires.	
List Price, Each.....	.90
Invincible Inside Tire Patches for 5" Tires.	
List Price, Each.....	1.05

ADAMSON Vulcanizers



Model "U"

FOR TUBES AND CASINGS

The Tire is repaired without deflating it or removing it from the car.

Absolutely Automatic

Place the patch—attach the Vulcanizer—light it. No further attention required. It can't burn, scorch or injure tube or casings. So simple anyone can operate it.

A practical Vulcanizing Outfit complete with repair gum and directions, ready for instant use.

Model "U" Mailing weight 4 lbs. \$2.00

Model "T"

FOR INNER TUBES ONLY

NO cement or acid is used; the repair gum is placed on the tube according to directions.

The Vulcanizer is applied by simply clamping it centrally over the repair gum and tube as illustrated. To vulcanize the repair, one ounce of gasoline is placed into the Vulcanizer and ignited.

IT'S QUICK

A complete outfit with repair gum and directions, ready for instant use

Model "T" Mailing weight 4 lbs. \$1.50

ADAMSON Repair Gum

No Cement Necessary



THIS Vulcanizing Rubber is especially prepared for use with ADAMSON VULCANIZERS.

A high grade repair stock for use in repairing both tubes and casings.

Adamson Repair Gum is compounded so as to give a perfect adhesion without the use of cement.

We guarantee satisfactory results when ADAMSON Repair Gum is used.

Repair Kit Rolls 25c. each; per dozen \$2.00
One-fourth Pound Rolls, - - - each .50
One-half Pound Rolls, - - - each 1.00



Model "E"

5-MINUTE Vulcanizer

Operates with

ADAMSON DRY FUEL

NO FLAME—IT GLOWS

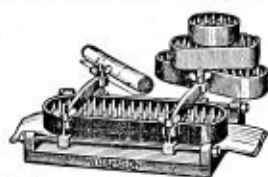
A Light and handy Vulcanizer for the quick repair of tube punctures that is sure in its work, whether you use common gasoline or Dry Fuel. Vulcanizes a patch *permanently* in five minutes. Simply place the patch—attach the Vulcanizer—light it. No further attention required.

Adamson Dry Fuel is flameless; it burns with a hot glow; is furnished in a convenient can; does not absorb dampness; and remains uniform under all conditions.

This outfit includes 5-Minute Vulcanizer, can of Dry Fuel, box of 12 patches, measuring cup and directions for repair, ready for instant use.

Model "E" Mailing weight 1 lb. \$1.00

Extra Box 12 Patches 25c. Dry Fuel, 12 Charges 50c.



Model "S"

FOR PRIVATE GARAGES AND REPAIR SHOPS

The most Profitable Investment a Repairman Can Make

THIS outfit is especially designed for repairing Inner Tubes. It is entirely Automatic. Requires no attention. Anyone can operate it. No steam—no electricity. Uses common gasoline, the always available fuel.

With this vulcanizer a cut 12 inches in length is repaired in 15 to 20 minutes. You positively cannot injure tubes as with other vulcanizers. The patch is prepared in the usual manner common to repair shops and the proper size cup is clamped directly over the repair.

To vulcanize, the proper amount of gasoline is placed in vulcanizer and ignited—no further attention required.

Complete with 1/2 pound of Repair Gum

Model "S" Shipping weight 30 lbs. \$12.00

Model "M"

Especially adapted for repairing Motorcycle, Bicycle Ford and Cyclecar Tubes.

This Vulcanizer operates the same as Model "T" but is smaller. It is designed especially for repairing 3 1/2 inch tubes or under



IT'S QUICK

A complete outfit with repair gum and directions, ready for instant use.

Model "M" Mailing weight 2 lbs. \$1.00

Every ADAMSON Vulcanizer is Guaranteed. Over a Million Motorists are now using them with complete satisfaction.

SHALER VULCANIZERS for MOTORISTS SHALER

THE NATIONALLY ADVERTISED LINE

The Popular VUL-KIT - sells for \$3.50
Gasoline Heated - For all Sized Casings and Tubes



Silent Salesman FREE

Steel background lithographed in four colors to represent section of tire on wheel. Vul-Kit is clamped to it as if in operation.

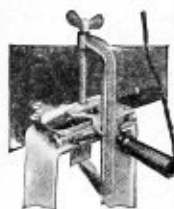
tube injuries, curing clear through and making permanent repairs of any size. The asbestos inlaid pressure plate is swivelled to avoid squeezing one side of tire tighter than the other and to enable the largest tube to be handled without pinching its edges.

A lamp burning gasoline or alcohol produces the correct heat without dangerous exposed flame or smoke. A measure gives the proper fuel charge, eliminating watching or regulating. The fuel is absorbed by a wick so there is no flaming liquid to spill. Handle detachable for packing to carry in car. Complete with repair rubber, cement and full instructions. Polished nickel. Weight $4\frac{1}{2}$ lbs. One dozen in carton. This model should always be in every accessory stock.

Type G, No. 32, retail price.....\$3.50

FORD-KIT, Type H, No. 33.....\$2.75

Same as Vul-Kit but designed for Ford casings and tubes



Repairing Tube

connecting the vulcanizer to any lamp socket, the temperature quickly rises to the required degree and remains there as long as the current is turned on. No regulating is required. All parts of the repair are heated alike. When several repairs are to be made in succession, the hot vulcanizer can be moved from one to the other by the cool handle. One or two tubes can be mended at a time. Outfit includes tube shelf, ten foot conducting cord, thermometer, repair material and illustrated instructions. Current consumption only 70 watts. Weight 13 lbs.

Type D, No. 83, Polished Nickel, for D. C. or A. C. (When ordering, specify voltage of your city current).....\$15.00

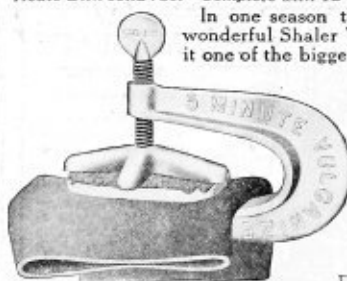
The sales of this well known tire-saver have grown enormously as tire prices have increased. Feature it and take advantage of the big advertising. The "Shaler Vul-Kit" is known to every auto owner. Dealers everywhere recommend it as the sure means of doubling tire mileage by sealing casing cuts before dirt and water get in to rot the fabric. Casings always need attention that will only be given if the motorist has his own vulcanizer. It is the stitch in time that saves nine.

The Vul-Kit has a $3\frac{1}{2} \times 4$ inch curved surface which is used for mending cuts, sandpockets, etc., in all sized casings without removing tire from wheel or letting out the air. A machined surface of 10 square inches mends all



Repairing Tube

The Original 5-MINUTE - sells for \$1.50
Heats with solid fuel - Complete with 12 Patch and Heat Units



fectly, making repairs far superior to any "stuck-on patch." Heat is produced by burning a non-flaming chemical heating unit. Each of the twelve patch units furnished with the outfit is complete in itself, consisting of the patent heat unit in its metal container, and the patch of raw rubber attached to the vulcanizing surface of the container. This cartridge is clamped over the puncture and the heat unit is lighted. In 5 minutes the repair is done. Only the patch is heated. Anyone can use it - no danger of overcuring. Each outfit includes clamp, 6 round and 6 oblong patch units packed in display box. 12 outfits in carton.

Type M, No. 5, With 12 Patch and Heat Units, retails at.....\$1.50

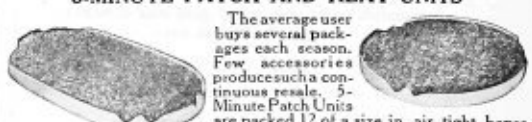
5-MINUTE PATCH AND HEAT UNITS

An actual vulcanizer is attached to a section of tube, showing method of operation and a finished repair. Opposite is a match slipped in holder. Free with each dozen outfits.

The average user buys several packages each season. Few accessories produce such a continuous resale. 5-Minute Patch Units are packed 12 of a size in air tight boxes. One dozen boxes in carton.

Round Patch and Heat Units, $1\frac{3}{4}$ in. diameter, per box of 12.....75

Oblong Patch and Heat Units, $2\frac{1}{4} \times 1\frac{3}{8}$ in., per box of 12.....75



One dozen boxes in carton.

Round Patch and Heat Units, $1\frac{3}{4}$ in. diameter, per box of 12.....75

Oblong Patch and Heat Units, $2\frac{1}{4} \times 1\frac{3}{8}$ in., per box of 12.....75



DISPLAY CARTON WITH EACH DOZEN

An actual vulcanizer is attached to a section of tube, showing method of operation and a finished repair. Opposite is a match slipped in holder. Free with each dozen outfits.

The average user buys several packages each season. Few accessories produce such a continuous resale. 5-Minute Patch Units are packed 12 of a size in air tight boxes. One dozen boxes in carton.

Round Patch and Heat Units, $1\frac{3}{4}$ in. diameter, per box of 12.....75

Oblong Patch and Heat Units, $2\frac{1}{4} \times 1\frac{3}{8}$ in., per box of 12.....75



One dozen boxes in carton.

Round Patch and Heat Units, $1\frac{3}{4}$ in. diameter, per box of 12.....75

Oblong Patch and Heat Units, $2\frac{1}{4} \times 1\frac{3}{8}$ in., per box of 12.....75

HOME GARAGE MODEL - sells for \$15.00

Heats from City Lighting Current. Thermostat Heat Control

Handles every kind of tube and casing work that the average motorist will care to undertake. It has no equal for use at home, where practically all repairing is done. Dealers should recommend it as the best motorists' vulcanizer for use wherever electric current is accessible.

Tube and casing surfaces are $3\frac{1}{2} \times 7$ in. - twice the size of any other motorists' vulcanizer. Electricity is the safest heat for vulcanizing, and conflicts with no garage regulations. Thermostatic heat control maintains the exact vulcanizing temperature, so that a tire cannot be overheated, and by maintaining this temperature as long as necessary, permits curing through the thickest tread, as well as making superficial repairs. Upon

connecting the vulcanizer to any lamp socket, the temperature quickly rises to the required degree and remains there as long as the current is turned on. No regulating is required. All parts of the repair are heated alike. When several repairs are to be made in succession, the hot vulcanizer can be moved from one to the other by the cool handle. One or two tubes can be mended at a time. Outfit includes tube shelf, ten foot conducting cord, thermometer, repair material and illustrated instructions. Current consumption only 70 watts. Weight 13 lbs.

Type D, No. 83, Polished Nickel, for D. C. or A. C. (When ordering, specify voltage of your city current).....\$15.00



Repairing Rim Cut

Rees Double Worm Gear Drive Jacks



FOR PASSENGER CARS AND TRUCKS



Showing the comfort and ease of operation of the passenger car model

Four Working Parts—No pawls, springs or intricate mechanism to get out of order.

Safe—No back kick—automatically locks in either direction—secure at any height.

Speedy—Resistance halved—speed doubled—the speed of a ratchet jack.

Powerful—Double worm—all forces balanced—lifts maximum load with minimum effort.

Convenient—Easily handled and operated by extended handle with Universal Joint. Operates from a standing position and keeps you out of the dirt. Fully Guaranteed.



Showing the four working parts embodied in all models of Rees Jacks

Rees Double Worm Gear Drive Jacks embody the patented double worm gear drive principle used for the first time in any Jack. The double worm gear drive multiplies the leverage applied, end thrust and side strain are eliminated and friction is reduced to a minimum.

It is this principle as shown, which accounts for the great lifting power, speed, safety and ease of operation of the Rees Jack. All pawls and springs have been eliminated and you have no multiplicity of small and delicate parts to get out of order.

Rees Double Worm Gear Drive Jacks are light in weight for their lifting capacity and are easily handled and operated. A liberal factor of safety is allowed for overloading in emergency.

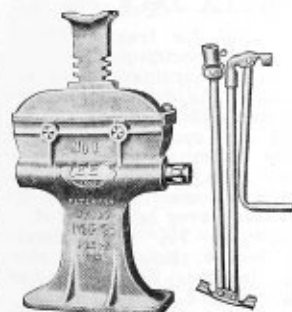
The No. 1 Auto Jack illustrated is furnished with a four-foot folding handle. The handle assists you in placing the jack under the car, and permits convenient and easy operation of the jack from a standing position, keeping you out of the dirt.

For Truck service, garage and repair shop use, Rees Jacks are furnished in the sizes and capacities shown on this page.

The Nos. 3-A and 21-A are supplied with a ratchet handle and foot lift that renders them handy in many applications otherwise difficult.

No.	Capacity	Height	Lift	Weight	List Price
1	2 Tons	10 1/4"	5 1/2"	13 lbs.	\$ 9.00
2	5 Tons	10 3/4"	6"	22 lbs.	20.00
3-A	6 Tons	12 1/4"	6"	28 lbs.	24.00
21-A	10 Tons	14 3/4"	9"	45 lbs.	45.00

A—Designates Foot Lift as shown



Passenger Car Model

Handle Folded



Truck Model

"REES JACKS SAVE BACKS"

SIMPLEX JACKS

SIMPLEX JACK (NEW) No. 36



A sturdy and powerful Jack for light motor cars. Finest malleable construction. Working parts few—all carefully machined. Steel spring case equipped with genuine piano wire. Pawls operate perpendicularly. Jack works easily, rapidly, positively. Cannot get out of order. Won't break. A real Jack at little cost.

Capacity, $\frac{3}{4}$ ton; height, 10 inches; lift, $6\frac{1}{2}$ inches; weight, 5 lbs.

No. 36 Simplex Jack. List Price \$3.50

SIMPLEX JACK No. 41



The popular size for medium and heavy pleasure cars. The strongest, safest, most dependable jack of its capacity on the market. Every working part is a drop steel forging, carefully machined. Three points of lift, cap, lower foot and steel removable rotating shoe. Powerful, quick and easy action, 14-inch steel lever bar included.

Capacity, $1\frac{1}{2}$ tons; height, 10 inches; lift, 7 inches; weight, 13 lbs.

No. 41 Simplex Jack. List Price \$6.50

SIMPLEX JACK No. 43



Belongs to same series as Nos. 41 and 42, but built for the heaviest pleasure cars and heavy trucks. Malleable iron frame and drop forged steel rack bar, pawls and bearings enable this jack to stand hard usage and long wear. Short stroke, long lever bar, machine cut pawls and rack bar insure easy, positive, dependable action under heaviest load. Detachable shoe gives additional and convenient lifting point. Supplied with 24-inch steel lever bar.

Capacity, 3 tons; height, 13 inches; lift, 10 inches; weight, boxed, 17 pounds.

No. 43 Simplex Jack. List Price \$8.50

SIMPLEX JACK No. 45



A jack built for handling the heaviest limousines, touring cars and trucks. Geared mechanism enables easy, safe, rapid lifting under maximum load. Made of the finest material—all operating parts drop forged steel. A distinctive, powerful, dependable tool for those wanting the "finest" in construction and service. Steel detachable shoes provides two additional lifting points. Provided with 18-inch steel lever pole.

Capacity, 3 tons; height, $10\frac{1}{2}$ inches; height with shoe, $12\frac{1}{4}$ inches; lift, $6\frac{1}{4}$ inches; weight, boxed, $17\frac{1}{2}$ pounds.

No. 45 Simplex Jack. List Price \$14.00

SIMPLEX JACK (NEW) No. 38



One-ton Jack of unequalled simplicity, strength and dependability. All malleable iron construction. Few, simple parts—short fulcrum—perpendicular pawl action under positive piano wire pressure. Easy, sure, powerful action. Has adjustable shoe locking in seven different positions. Wonderful jack value throughout, insuring wonderful jack service.

Capacity, 1 ton; height, $10\frac{1}{2}$ inches; lift, 6 inches; weight, $6\frac{1}{2}$ lbs.

No. 38 Simplex Jack. List Price \$4.50

SIMPLEX JACK No. 42



Heavier model, similar in design and construction to No. 41. Standard of finest malleable iron. Every working part drop forged steel. Machine cut pawls and rack bar insure smooth, positive action. A powerful, dependable jack throughout. Used as standard equipment by many large motor truck makers. Operates on up and down stroke of 18-inch steel lever bar.

Capacity, 2 tons; height, $11\frac{1}{2}$ inches; lift, $8\frac{1}{2}$ inches; weight, boxed, 15 lbs.

No. 42 Simplex Jack. List Price \$7.50

SIMPLEX JACK No. 44



A sturdy, powerful four-ton truck jack, embodying the standard high grade dependable, Simplex design and construction. Steel pawls, rack bar and bearings—short stroke, long steel lever bar, insure easy, positive lifting under heavy load. Malleable iron standard—strongly re-inforced where needed. Rotating cap enables detachable shoe to be used in any position.

Capacity, 4 tons; height, $13\frac{1}{4}$ inches; height with shoe, $17\frac{1}{4}$ inches; lift, 9 inches; weight, boxed, 23 lbs.

No. 44 Simplex Jack. List Price \$12.00

SIMPLEX JACK No. 47



Designed for trucks of 5, 6, $7\frac{1}{2}$ tons capacity and over. A tool of extraordinary merit and service. The drop forged steel gear mechanism, high grade material and careful construction insure unlimited strength, ease of operation, powerful action and remarkable wearing ability—24-inch steel lever bar included.

Capacity, $7\frac{1}{2}$ tons; height, $11\frac{1}{4}$ inches; height with shoe, $16\frac{1}{4}$ inches; lift, 7 inches; weight, boxed, 29 lbs.

No. 47 Simplex Jack. List \$18.00

IN ORDERING GIVE NAME, NUMBER AND SIZE.

PETELER JACK



Capacity 3,000 lbs. Made with long telescoping handle. Therefore, works in awkward places. Lifts $\frac{3}{4}$ " per stroke. Easily lifts all cars or trucks excepting the very heaviest trucks and is made to withstand a heavy overload. Constructed of steel with a minimum number of working parts. Minimum height lowered 11". Maximum height raised 17". Always a big seller.

Peteler Jack. List Price, Each.....\$8.50

HARTFORD JACK

A better, safer, stronger, Jack. Its patented gear enables a 15 lb. pressure on the handle to lift 1000 lb. load. Gears solid steel machined and hardened. All moving parts enclosed. Made with broad base. Cannot tip over. Neatly finished in black enamel. Will lift the heaviest car with ease.



Hartford Jack. List Price, Each.....\$9.00

WEED CHAIN JACK



A powerful, easy working Jack which is operated by means of pulling an endless non-kinkable chain. To lift the car pull chain one direction. To lower pull in opposite direction. No need to crawl underneath the car to operate a Jack. Easily lifts the heaviest pleasure car. Made of best malleable castings neatly finished with all moving parts accurately machined for ease of operation. Equipped with auxiliary

step which adds 2 inches to height of Jack. Capacity of pleasure car models one ton, truck model 5 tons.

Packed individually in neat cartons.

No.	Minimum Height	Maximum Height When Raised	Weight	List Price
8	8"	12½"	10½ lbs.	\$7.50
10	10"	15¾"	11 lbs.	7.50
12	12"	18½"	11¼ lbs.	7.50

No. 12 Jack is not provided with Auxiliary step.

Also made for heavy trucks with the following specifications; minimum height 12 inches; maximum height when raised 19½ inches; lifting capacity 5 tons. Weight 33 lbs.

List Price\$15.00

RELIABLE JACK
Ratchet Type

A high grade medium priced Jack. Racked teeth cut from $\frac{3}{4}$ " x 1" steel and made with extra large flat base giving a firm foundation on the roughest ground. Equipped with adjustable foot extension or rack, enabling a wide range of lifts. Of the simplest design with a minimum number of working parts.

No. 46 Reliable Jack, capacity 3000 lbs.; minimum height lowered 11½"; maximum height raised 17½"; weight 8¾ lbs.

List Price\$4.80

RELIABLE JACK

The principal feature of this screw type Jack is the speed of operation. Equipped with a small crank which enables the setting of shoe at exactly the right height, then with a few strokes of the handle the car is lifted from the ground. Made of malleable iron and cold rolled steel with large base substantially reinforced. Light in weight and very strong with only four working parts. Absolutely guaranteed.



No.	Capacity	Height Lowered	Height Raised	Weight	List Price
0	2500 lbs.	15"	24"	6½ lbs.	\$3.25
1	3000 lbs.	10½"	17"	5 lbs.	2.85
2	6000 lbs.	12"	19"	8½ lbs.	4.15

KIMBALL JACK
Ball Bearing

As shown in illustration, this powerful Jack is made with extra long handle and is of the screw type. Head is diamond point hardened steel. Cannot slip; ball bearings carry the load and thrust reducing friction to a minimum. Operates by simply turning handle. Nothing to get out of order. May be used in most inaccessible places. Handle folds up into very small space.



Kimball Jack

Height lowered, 9"; height raised, 15".

Kimball Jack. List Price, Each.....\$7.00

EUREKA JACK



The lowest priced Jack we carry. Screw type, made from good quality steel with cut gears strong enough to handle a 1 ton load. Long leverage with detachable iron handle neatly finished. A good looking sturdy light car Jack. Recommended for cars under 3000 lbs. in weight. Minimum height lowered 10 inches. Maximum height raised 17 inches. Weight 4 pounds.

No. 1 Eureka Jack. List Price, Each.....\$1.25

RELIABLE TRUCK JACK Heavy Duty Screw Type



A powerful screw type Jack that is standard equipment on Clydesdale, service, Sterling, etc., trucks. Unconditionally guaranteed for an 8 ton load, but tested for a much greater overload. Made with broad flat base. Steel extension shoe and 1½ inch diameter, cold rolled steel screw. Made in two sizes.

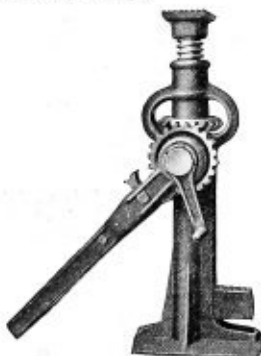
No.	Capacity	Minimum Height Lowered	Maximum Height Raised	Weight	List Price
24	8 tons extension shoe 3 ton	15" shoe 3"	23" extension shoe 13"	22 lbs.	\$12.00
27	8 tons extension shoe 3 ton	13" shoe 3"	19" extension shoe 8½"	17 lbs.	\$10.00

RELIABLE TRUCK JACK Heavy Duty Screw Type

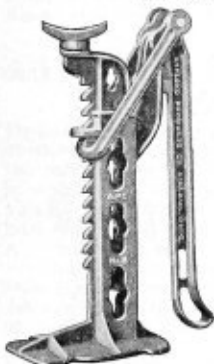
This Jack will usually lift 10 tons, while the foot extension will lift three tons, making it extremely popular for the heaviest trucks, limousines or tractors. Equipped with crank on side gear for speedy adjustment to proper height, the long handle giving tremendous leverage. Foot extension and screw shaft made from one piece cold rolled steel 1½ inch shafting. This Jack has a minimum height of 17½ inches, making it useful for cars with high clearance, etc.

No. 4 Reliable Jack, capacity 10 tons (foot extension 3 tons) minimum height lowered 17½ inches; maximum height raised 26 inches; weight 25 pounds.

List Price\$12.00



TIRE SAVER JACKS

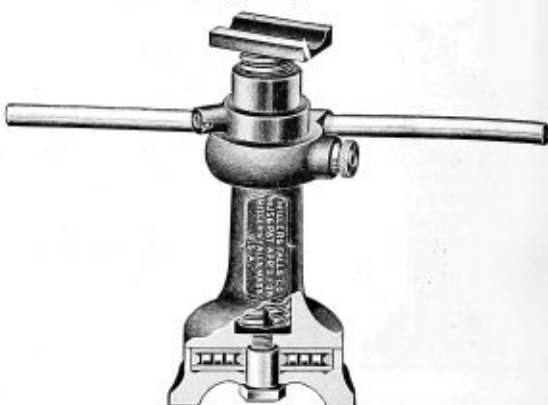


Made of high quality malleable iron and sold in sets of four. Adjustable to any height hub or axle. Will lift any sized car clear of floor. Equipped with swivel type shoe.

Tire Saver Jacks, Per Set of Four Jacks.

List Price\$10.00

MILLERS FALLS SCREW JACK Capacity 7 Tons



Seven ton capacity, but will actually handle 15 tons in emergency. Made with hardened rollers operating between two hardened steel discs. A cone thread cut on screw, accurately meshing with barrel ratchet. Operates either right or left by turning knurled knobs. Automatic stop prevents screw from screwing out of barrel. Barrel cast iron with steel cut screw and cap. 17 inch lever; minimum height 11 inches; maximum height 18 inches. Weight 24 lbs.

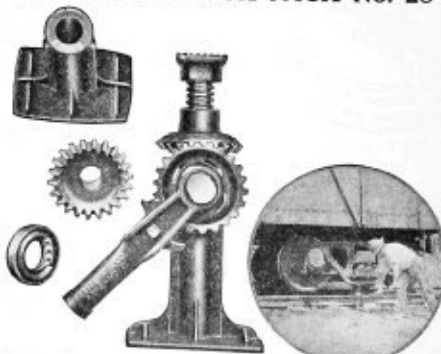
Millers Falls Screw Jack. List Price, Each.....\$12.00

RELIABLE TRUCK JACKS

A strongly reinforced screw Jack for heavy motor trucks, etc. Will handle much more than rated capacity with ease. These Jacks are standard equipment on many of the finest trucks built. Carefully made of the best materials obtainable.

No.	Capacity	Height Lowered	Height Raised	List Price Each
23	6 Tons	13½"	20"	\$9.30
26	6 Tons	11½"	16½"	8.50

RELIABLE TRUCK JACK No. 28



An extra powerful Jack with stand, gears, handle, socket, and corrugated top made from malleable iron, with 1½" diameter steel screw. Furnished complete with 24" steel pipe handle. Will handle the heaviest truck made with ease.

No.	Capacity	Height Lowered	Height Raised	List Price Each
28	10 Tons	11½"	16¾"	\$14.00

ENDLESS TILTON WOVEN FAN BELTS



Woven by a unique process without joints, laps, or seams. Every inch uniformly strong—no weak spots to break. The patented process of manufacture prevents frayed edges. Will not stretch, slip, or crack. Guaranteed tensile strength, 5% tons per square inch; equivalent to a breaking strength of 2,550 pounds per belt. Made in all sizes for all cars. Packed in unit cartons containing 20 belts of one number.

Stock Nos.	List Price, Each	Stock Nos.	List Price, Each	Stock Nos.	List Price, Each
A, B	\$.50	S, U	\$.90	BB	\$1.00
C, D, E, F, G, H, I, J, K	.60	V	.70	CC, FF, HH	.60
L, M	.90	X, Y	.60	GG, II, KK	.50
N, O, P, Q	.60	Z	1.20	LL, MM, OO, PP, QQ	.60
R	1.20	FT	2.00	RR	1.20
		AA, DD	.75		

SPECIFICATIONS

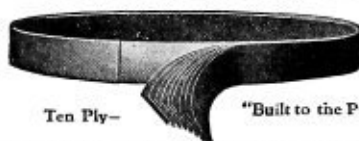
Make	Year	Model	Size in Inches	Stock No.	Make	Year	Model	Size in Inches	Stock No.	
Allen	1919		29¾x1¼	FF	Kline	1916	6-36E	32¾x11/16	NN	
"	1915-19	34, 37, 41	30x1 or 31x1	C	"	1920		35¾x1¼	N	
All-American	1920	Truck	41½x1¼	SS	Liberty	1919		35¾x1¼	N	
Apperson	1916-17-18	"8"	36¼x1¼	Z	"	1916-17-18	Six	34¾x¾	I	
"	19-20	"8"	36¼x1¼	I	Maibohm	1917-18-19	B	37x1	H	
Auburn	1918-19	Continental Motors	34x¾	X	Maxwell	1920 from Serial 271591				
"	1920		31x1¼	E	"	up to 271591	Late Model	44¼x1½	RR	
Briscoe	1916-17-18-19	4 and 24	28¾x¾	E	"	1918-19	"25"	42¾x1½	R	
Buick	1914	B36 B37, B38, B54	31x1	C	"	Early Model				
"	1915	B55	31x1	C	"	1920, Serial				
"		C24, C25, C36, C37	31x1	C	"	No. up to 271591				
"	1916	D54, D55	31x1	C	"	1916-17	"25"	42¾x1¼	L	
"	1916-17	D44, D45, D46, D47	26x¾	Q	"	1914	604A	32¾x¾	K	
"	1917	D34, D35	27x¾	Q	"	1916-17-18-19	2272 and 2273	32½x1	D	
"	1918	E34, E35	27x¾	Q	Mid-West	1920	500	17x1¼	TT	
"	1918	E44, E45, E47, E49	27x¾	Q	Mitchell	1916		34¾x1¼	N	
"	1918	E50	27x¾	Q	"	1915		33¾x1¼	DD	
"	1918	Early Type	27x1¼	O	Moon	1918	6-36	35½x1	G	
"	1918	E44, E45, E46, E47	27x1¼	O	National	1919-20		38¾x1¼	U	
"		E49, E50, Late Tp	27x1¼	O	"	"6"	1919	AL	38¾x15/16	LL
"	1919	H44, H45, H46, H47	27x1¼	O	"	"6"	1917-18-19	AF	37-5/16x 15/16	MM
"	1920	H49, H50	27x1¼	O	"	"12"	1917-18	AM	24½x1	EE
"		K44, K45, K46, K47	27x1¼	O	"	"12"	1917	AK	23x1	GG
"		K49, K50	27x1¼	O	"	"12"	1916	AD	20½x1	KK
Chalmers	1916-17-18	35A, 35B, 35C	37¾x1¼	S	Overland	1920	New Model "4"	33x¾	Y	
Chandler	1916-17-18			D	"	1917-18-19	90 and 90 Country	31x1	C	
"	19-20	All Models	32½x1	D	"	1917-18-19	88-4, 84	31x1	C	
Dodge	1917-18		31x1	C	"	1917	75B	31½x1	C	
"	1915-16		32½x¾	K	"	1916	75	31½x1	C	
Dort	1918	8, 11, 11T, 11S	28¾x1	HH	"	1916	84	31x1	C	
"	1917-18	6, 9, 9T, 9S	28¾x¾	E	Paige	1915-19	6-55	40x1¼	M	
"	1915-16	4, 5, 5A	27¾x¾	F	"	1918	6-39	33¾x¾	Y	
Elgin	1919		37¾x1	H	"	1917	6-51	39½x¾	P	
"	1917-18	"6"	28¾x¾	E	"	1917	6-39	39½x¾	P	
Essex	1919-20		41½x1	CC	"	1916	6-46	39½x¾	Y	
Ford	1917-19	T	26x1¼	B	"	1916	6-28	35¾x¾	Y	
"	1911-16	T	22½x1¼	A	Reo	1915	6-36	35¾x¾	Y	
Fordson	1917-18-19	Tractor	41½x2	FT	"	1919	"6"	46-3/16x¾	V	
Grant	1918	Truck	36-9/16x1¼	RB	"	"4"	1915-16-17			
"	1919	Truck	39-9/16x1¼	M	"	18-20	RS	39x¾	P	
"	1920	Passenger	41½x1¼	SS	Saxon	1916-17-18	Six	36¾x1	H	
"	1915-16	T	27¾x¾	F	Stearns					
Haynes	1915-16-17-18	30, 34, 35, 33	34¼x¾	I	"	Knight	1915-16	Eight	22x1	II
Hollier	1917-18	Six	27x¾	F	"	Studebaker	1916-17-18	"4" and "6"	32¾x¾	K
Hudson	1916-17-18-19			G	"	Stutz	1920	Model G	36x¾	PP
"	20	Super Six	34¾x1	G	"	Templar	1917-18-19-20		32½x1	D
King	1919		29¾x1¼	FF	Velle	1916-17-18-19	Continental Motors	31-11/16x¾	K	
"	1917-18	EE 7 Passenger	30x1-3/16	OO	Westcott	1919		31x1¼	X	
"	1916	E	24¾x1	EE						
"	1915	D	24x1	EE						
Kissel	1919	Custom Built	34-9/16x1¼	N						
"	1917-18	Six	33¾x¾	J						

NEW SIZES WILL BE ADDED FROM TIME TO TIME.

GATES VULCO CORD BELTS

"The Standardized Fan Belt"

A Record-Breaking Seller



Ten Ply—

"Built to the Pulley"

The standardizing of fan belt sizes accomplished by the Gates Rubber Company with Gates Vulco-Cord Belts has proved enormously successful and very profitable for the dealer.

Every Vulco-Cord Belt is oil-proof, heat-proof, non-stretch, and built, by a patented process, to conform to the pulleys.

Each belt is positively guaranteed to outwear any other leather, webbing or fabric belt.

A Gates Vulco-Cord Belt isn't made to fit just one car. It will fit as many as eighteen different makes and models and is labeled with the names of the cars it fits.

With a complete line of Vulco-Cord Belts, an accessory dealer can furnish the correct belt for 95% of all the cars now in use, and with eight or nine standardized sizes you can fit every car in your territory.

Each stock size in the following list will fit all cars listed under it.

STOCK SIZES

(P) indicates Passenger Car. (C) Truck. (T) Tractor.					No. CAR YEAR MODEL PRICE			
811	Ford	(P)	1911-16	T				\$.50
	National	(P)	1917-18	12"				
812	Ford	(P)	1917 to 20	T				.55
321	Jeffery	(P)	1916	472				.75
	Koehler	(C)	1919	K				
	Marmion	(P)	1916	34				
	Mercer	(P)	1916 to 20					
	Overland	(P)	1916-17-18	75, 90, 90CC				
	Overland	(P)	1916	83B				
	Overland	(P)	1917-18	83BOE, 85				
	Overland	(P)	1918-19	90T After first cars				
	Overland	(P)	1918-19	90B				
	Owen Mag	(P)	1918-19					
	Roamer	(P)	1918-19	D4-75				
	Sullivan	(C)	1916-17-18	G. F.				
	Templar	(P)	1917-18-19	W. 42				
822	Biddle	(P)	1916 to 19	D & H				.85
	Corbett	(C)	1919	A. A. A. B. C				
	Hudson	(P)	1916 to 19	Super Six				
	Internat'l	(C)	1916 to 19	F. H. & K				
	Jeffery	(P)	1917	671				
	Maibohm	(P)	1917-18-19	B				
	Moon	(P)	1918	636				
	Nash	(C)	1917-18	20-30				
	National	(P)	1917-18-19	"6"				
	Overland	(P)	1915-16	80, 81, 83				
	Paige	(P)	1919	519				
	Republic	(C)	1916-17-18	With 15 Motor				
	Rock Falls	(T)		7				
	Saxon	(P)	1916 to 20	"6"				
	Stutz	(P)	1918-19-20	G. H. & S				
	Wilcox	(C)	1916-19	With Wilcox Motor				
	Willys-K.	(P)	1916	81				
823	Chvrolet	(P)	1916-17	400				.45
824	Briscoe	(P)	1917-18-19	424				.60
	Dort	(P)	1915-18	All Models				
	Elgin	(P)	1916-17-18					
	Grant	(P)	1915-16	T, V				
	Holier	(P)	1917-18	"6"				
	Woods	(P)	1918					
825	Davis	(P)	1916-17-18	"6"				.65
	Forschler	(C)	1918	B				
	Haynes	(P)	1915 to 19	30 to 45				
	Liberty	(P)	1916 to 19	"6"				
	Piedmont	(P)	1917-18-19	S				
826	Paige	(P)	1917-18	646, 651, 655				.85
	Reo "4"	(P)	1915-19	R, S				
	Reo	(C)	1915-19	P				
827	Buick	(P)	1918-19	E & H. 41 to 50				.85
828	Anderson	(P)	1916-17-18	7 W. Motor				.65
	Hansen	(P)	1919					
	Kline	(P)	1917	638 F				
	Mooreland	(P)	1917-18	1 2 & 3 1/2 Ton				
	Noma	(P)	1919					
	Paterson	(P)	1919					
	Rowe	(C)	1919	E U				
	Studeb'kr	(P)	1919					
829	Apperson	(P)	1919	8 19				.85
	Depue	(T)	1918	B				
	Doane	(C)	1919	6 Ton				
	Famous	(C)	1919	B 10 B 12				
	Fulton	(C)	1919	C & D				
	Lar' Deyo	(C)	1918	A				
	Tower	(C)	1919	E 4 Cont. Motor				
830	Anderson	(P)	1919					1.15
	Diamond	(C)	1919	C				
	Jordan	(P)	1919	M				
	Alcon	(P)	1920	R-20				
	American	(P)	1917-18-19	B				.65
	Auburn	(P)						
	Brinton	(C)	1916-17-18	F				
	Buick	(P)	1916	With Contin'l Motor				
	Dodge	(P)	1915-16	C24, C25				
	Empire	(P)	1916-17-18	"4" & "5"				
	Geronimo	(P)	1918-19	6A 45				
	Glide	(P)	1916-17-18	6-40				
	Jeffery	(P)	1916	Chesterfield				
	Kline	(P)	1916	6-36E				
	Madison	(P)	1918					
	Paige	(P)	1916 to 19	"6-36" "6-38" "6-39"				
	Pan Amer.	(P)	1919					
	Paterson	(P)	1916-17-18	"6"				
	Sandow	(C)	1916-17-18	2, 3, 3 1/2 & 5 Ton				
	Seneca	(P)	1919	4-27				
	Stephens	(P)	1916-17	Salient Six				
	Studeb'kr	(P)	1916-17-18	Six				
	Velie	(P)	1916-17	Six				
832	Buick	(P)	1913	30, 31				.65
	Buick	(P)	1916-17	D34, 35, 44, 45, 46, 47				
	Buick	(P)	1918	E34, 35				
833	Maxwell	(P)	1915	22, 25 (G & D Star)				1.00
	Buda	(C)	1919	Buda Engine				
834	Maxwell	(P)	1916-17	25				1.10
	White	(C)		A T C D				
835	Allen	(P)	1915-18	34, 37, 41				.85
	Atlas	(C)	1918-19					
	Bethlehem	(C)	1917-18-19	B, D, E				
	Buick	(P)	1915	D36, D37				
	Buick	(P)	1916-17	D54, 55, D4 Truck				
	Chandler	(P)	1916 to 19	17, 18				
	Dodge	(P)	1917 to 20					
	Koehler	(C)	1917-18					
	Martin	(C)	1918-19	18-19				
	Overland	(P)	1916	84				
	Overland	(P)	1917-18-19	88-4				
836	Apperson	(P)	1916-17	"6"				1.05
	Dorris	(P)	1920	6-80				
	Essex	(P)	1920					
	Kissel	(C)	1916-17-18	3, 1 1/2, 2, 3 1/2, 4 Ton				
	Maxwell	(P)	1915	22, 25 (S-H Starter)				
837	Koehler	(C)	1919	M				1.25
	Maxwell	(P)	1918	25				
838	Bessemer	(C)	1919	J-2				1.05
	Case	(P)	1919	U				
	Chalmers	(P)	1916-17-18	35A, B, C, D				
	Harroun	(P)	1917-18					
	Lar' Deyo	(C)	1918	A, C & D				
839	Reo "6"	(P)	1915-19	M, N				.95
840	Acme	(C)	1919 to 20	C 3 1/2				1.00
	Columbia	(C)	1919	C-4 Engine				
	Diamond T	(C)	1919	F				
	Gabriel	(C)	1918-19	E				
	Gary	(C)	1918					
	Gramm-B.	(C)	1918	2 1/2 & 3 1/2 Ton				
	Indiana	(C)	1918					
	Mitchell	(P)	1916 to 20	D40, C42				
	Mooreland	(C)	1919 to 20	1 1/2 Ton				
	Muskegon	(C)	1919					
	Noble	(C)	1919	N W 2				
	Panhard	(C)	1918	E				
	Selden	(C)	1918-19	JWB, JCB, NL				
	Tower	(C)	1918-19	F				
	Union	(C)	1918-19	B				
	U. S.	(C)	1918	E 4				
841	Kling	(P)	1915-16	D. E.				.65
	Kling	(P)	1917-18	E E Seven Pass.				
912	Acme	(C)	1920	E				1.10
	Fordson	(T)						
921	Maline Unit	(T)	1918	D				1.75
922	Maline Unit	(T)	1919	D				2.90

GATES
MOULDED VULCO CORD "V"-BELT
"Built to the Pulley"

Endless Type



Showing Construction

Moulded to exactly fit the groove of the pulleys for which it is designed, the result being that the belt grips the pulley positively without possibility of slipping. Requires a minimum tension therefore, outlasts any other V type belt. Equally valuable on large or small pulleys and is guaranteed not to stretch. Usually gives a minimum of 10,000 miles service.

STOCK SIZES—GATES VULCO CORD MOLDED V BELTS

No.	Car	Year	Model	List Price, Each
701	Chevrolet	(P).....1919-20	F B	\$1.95
	Sampson Tractor.....	(T).....1919-20	M	
	Stephens	(P).....1920	80	
702	Cole "6"	(P).....1917-18-19	860-61-63	2.70
	Oldsmobile	(P).....1918-19-20	45, 45-A	
703	Grant	(P).....1916-17	(T-R) (T T).....	1.60
	Oakland "6"	(P).....1918-19-20	34-B	
	Oldsmobile	(P).....1918-19-20	37	
	Scripps-Booth "6"	(P).....1918-19-20	6-39	
704	Acme	(C).....1917-20	A	2.20
	G. M. C.	(C).....1917-18-19	41, 71, 101.....	
	Velie	(P).....1917-18-19	28, 38	
705	Packard	(C).....1918-19-20	E	2.70
706	Acme	(C).....1917-20	B, F	2.55
	Case	(P).....1918-20	U, V	
	Denby	(C).....1916-19	12, 13	
	G. M. C.	(C).....1917-18-19	16, 21-31	
	Jordan	(P).....1917-18-19	6-60	
	Republic	(C).....1919-20	10-11-11X	
R	Roamer	(P).....1919-20	654, D-4-75	
	Velie	(C).....1919-20	46	
	Westcott	(P).....1919-20	C-48	
707	Hupmobile	(P).....1917-20	R	1.30
708	Chevrolet	(P).....1918	F, A	1.70
	Chevrolet	(C).....1918-19-20	T	
	Chevrolet	(P).....1918-19-20	"490"	
	Grant	(C).....1919	16	
709	G. M. C.	(P).....1918-19	71B-101B	3.50
714	Marmon	(P).....1917-18-19	34	2.30
715	Westcott	(P).....1918-19	S18A, A-48	2.75

Other sizes to be announced later.

Note: "P" denotes Passenger Cars; "C" denotes Trucks; "T" denotes Tractor.

GATES
LAMINATED VULCO CORD "V" BELT
"Built to the Pulley"

Gates Vulco-Cord "V" Belt is built up of sections put together with coppered rivets. These sections overlap each other so that the belt is three-ply from end to end.



This means that it has three times the tensile strength of a single ply construction.

If one of these sections should break, a permanent repair can easily be made on the road or in the garage by removing the broken

section. This can be done in less than five minutes, and the length of the belt can easily be varied in the same way.

Gates Vulco-Cord "V" Belt comes on reels—50 ft. and 100 ft. lengths—with a box containing a generous supply of connecting bolts. It is also furnished in belt lengths without extra charge.

There are over 75 makes and models of cars for which "V" shaped belting is standard equipment, and most of them are represented in your territory. Most of them are "popular" cars such as Chevrolet, Grant, Hupmobile, Oakland, Cole 8 and Overland; and others include the de luxe cars of America—Locomobile, Cadillac, Packard, Peerless and Pierce-Arrow.

Here is the complete list, with size and length of belt required for fan drive shown opposite each model:

Cars Requiring "V" Belt as Standard Equipment

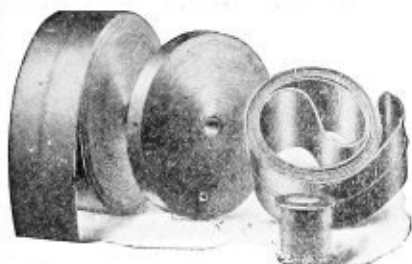
			SIZE	
			OF	
			BELT	
CAR	YEAR	MODEL		
Acme	(C) 1919	B 1 Ton	$\frac{3}{4}$ x39	Packard (P) 1914 1448 $\frac{3}{4}$ x43
Anderson	(P) 1916-19	With 9N Motor	$\frac{3}{4}$ x41	Packard (P) 1914 448, 548 $\frac{3}{4}$ x39
Available	(C) 1916-17-18-19	N	$\frac{3}{4}$ x40	Packard (P) 1914-15 238, 388 $\frac{3}{4}$ x40
Bessemer	(C) 1918-19	G, H, G2, H2	$\frac{3}{4}$ x42	Packard (P) 1916-17 Twin Six $\frac{3}{4}$ x45
Cadillac	(P) 1918	All 4 Cyl. Models	$\frac{3}{4}$ x45	Packard (C) 8 T N, 2 B $\frac{3}{4}$ x45
Case	(P) 1918	U	$\frac{3}{4}$ x37	Packard (C) TC, TD, 9TD $\frac{3}{4}$ x51
Chevrolet	(P) 1917	F 5	$\frac{3}{4}$ x35	Packard (C) 5A $\frac{3}{4}$ x57
Chevrolet	(P) 1918	450	$\frac{3}{4}$ x32	Packard (C) 10, 11 $\frac{1}{2}$ D, 2 D, 1E, 2E $\frac{3}{4}$ x39
Chevrolet	(P) 1918	"8"	$\frac{3}{4}$ x42	Packard (C) 3E, 4E, 5E, 6E $\frac{3}{4}$ x41
Cole	(P) 1917-18-19	"8"	$\frac{3}{4}$ x42	Peerless (P) 1916 616 $\frac{3}{4}$ x35
Comet	(C) 1918	"8"	$\frac{3}{4}$ x36	Peerless (P) 1916 51 $\frac{3}{4}$ x40
Commerce	(P) 1918	C-51	$\frac{3}{4}$ x41	Peerless (P) 1916-17-18 I C $\frac{3}{4}$ x39
Cunningham	(C) 1916-19	E	$\frac{3}{4}$ x38	Pierce Arrow (P) 1913 38 B $\frac{3}{4}$ x39
Diamond T	(C)	1 $\frac{1}{2}$ Ton J-4	$\frac{3}{4}$ x39	Pierce Arrow (P) 1913-14-15 66A, 66A2, 66A3 $\frac{3}{4}$ x42
Diamond T	(C)	1 Ton J-5	$\frac{3}{4}$ x39	Pierce Arrow (P) 1913-14-15 38C, 48B-2, 48-B3 $\frac{3}{4}$ x38
Dorris	(P) 1916-17	I A 6, 1 C 6	$\frac{3}{4}$ x38	Pierce Arrow (P) 1915-16-17 38C3, 38C4, 38B4, 66A4 $\frac{3}{4}$ x36
G. M. C.	(C) 1916-17-18	41, 71	$\frac{3}{4}$ x35	Pierce Arrow (C) 1917-18-19 R-8, R9 $\frac{3}{4}$ x39
G. M. C.	(C) 1916-17-18	16, 21, 31	$\frac{3}{4}$ x40	Pilot (P) 1918 6-45 $\frac{3}{4}$ x37
Garford	(C) 1918	77 B	$\frac{3}{4}$ x44	Premier (P) 1916-17-18 1 & 1 $\frac{1}{2}$ Ton $\frac{3}{4}$ x37
Grant	(P) 1917-18	K, G	$\frac{3}{4}$ x31	Roamer (P) 1916-17-18 R A C $\frac{3}{4}$ x37
Hoover	(C) 1917-18-19	15 B, 20 A	$\frac{3}{4}$ x36	Roamer (P) 1919 C-654 $\frac{3}{4}$ x37
Hupmobile	(P) 1918	R	$\frac{3}{4}$ x22	Rowe (C) 1919 UU, TU $\frac{3}{4}$ x34
Jeffery	(P) 1916	462	$\frac{3}{4}$ x32	Samson (T) 1919 $\frac{3}{4}$ x36
Jones	(P) 1918		$\frac{3}{4}$ x41	Sandow (C) 1916-17-18 1, 1 $\frac{1}{4}$ & 1 $\frac{1}{2}$ Ton $\frac{3}{4}$ x35
Jordan	(P) 1917-18	6-60	$\frac{3}{4}$ x41	Scripps (P) All Models G $\frac{3}{4}$ x31
Larrabee-	(C) 1917	N	$\frac{3}{4}$ x41	Scripps (P) 1918 Six $\frac{3}{4}$ x31
Deyo	(C) 1918-19		$\frac{3}{4}$ x36	With Continental 7 N Motor $\frac{3}{4}$ x41
Little Giant	(C) 1918-19		$\frac{3}{4}$ x46	Salient Six $\frac{3}{4}$ x36
Locomobile	(P) 1916-17-18		$\frac{3}{4}$ x43	Stewart (C) 1916-19 7 $\frac{3}{4}$ x38
Locomobile	(C) 1916	B & B B-1	$\frac{3}{4}$ x39	Stewart (C) 1916-19 8, 9 $\frac{3}{4}$ x41
Marion	(P) 1917-18	34	$\frac{3}{4}$ x37	Union (C) 1916-17 B $\frac{3}{4}$ x31
Marmion	(P) 1917-18		$\frac{3}{4}$ x37	Union (C) 1918-19 B & C $\frac{3}{4}$ x40
McFarlan	(P) 1916-17-18	19-50	$\frac{3}{4}$ x36	Velle (P) 1917-18 Six $\frac{3}{4}$ x35
Mercury	(P) 1918-19			Wescott (P) 1918 S 18 $\frac{3}{4}$ x44
Meteor	(P)	All Models		White (C) 1916-18-19 F & H $\frac{3}{4}$ x41
Moline	(P) 1916-17-18	C. & L.		Willys-Knight (P) 1916 86 $\frac{3}{4}$ x42
Moline	(P) 1916-17	G	$\frac{3}{4}$ x45	Willys Six (P) 1917 88-6 $\frac{3}{4}$ x42
Moon	(P) 1918	66	$\frac{3}{4}$ x38	Willys Six (P) 1917-18 89-6 $\frac{3}{4}$ x42
Nash	(P) 1918	681-685	$\frac{3}{4}$ x43	Winton Six (P) 1916-17-18 22 A $\frac{3}{4}$ x39
National	(P) 1919	Series BB-1	$\frac{3}{4}$ x37	Winton Six (P) 1916-17-18 22 $\frac{3}{4}$ x41
Oakland	(P) 1916-17-18		$\frac{3}{4}$ x31	
Old Reliable	(C)	7	$\frac{3}{4}$ x69	
Oldsmobile	(P) 1917-18	37	$\frac{3}{4}$ x31	
Oldsmobile	(P) 1917-18	45, 45A	$\frac{3}{4}$ x44	
Onella	(C) 1918	A	$\frac{3}{4}$ x42	
Overland	(P) 1914	79	$\frac{3}{4}$ x37	
Overland	(P) 1915	81	$\frac{3}{4}$ x42	
Overland	(P) 1917-18	85-6	$\frac{3}{4}$ x36	
Owen				
Magnetic	(P) 1917	M-26	$\frac{3}{4}$ x39	

Gates Vulco Cord V Shaped Belting

WIDTH	PRICE
$\frac{1}{2}$ "	55c per ft.
$\frac{3}{4}$ "	65c per ft.
1"	80c per ft.

LEATHER BELTING

Flat



Made of specially tanned soft pliable leather of the highest quality. Will withstand heat, water or oil without injury.

Made in single and two-ply, cemented together with best quality cement.

Width, in.	1/2	3/4	1	1 1/4	1 1/2	1 3/4	2
Single Ply,							
List Price							
per ft.	\$.12	.15	.18	.21	.24	.30	.42
Two-Ply,							
List Price							
per ft.	\$.24	.30	.36	.42	.48	.60	.84
Width, in.	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	4
Single Ply,							
List Price							
per ft.	\$.54	.60	.66	.72	.78	.84	.90
Two-Ply,							
List Price							
per ft.	\$1.08	1.20	1.32	1.44	1.56	1.68	1.92

LEATHER BELTING

Round



Intended for light drives such as buffers, grinders, fan belts, etc. Carried in stock in 3/8" and 1/2" diameters.

Diameter	3/8"	1/2"
List Price, per ft.	\$.30	\$.40

BELT LACES



Average length, 40 inches. Carried in two grades—Elk Hide, cut from toughest part of hide only—the strongest Belt Lace made; Raw Hide not quite so high in quality but a good serviceable lace.

Elk Hide

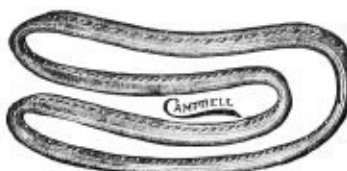
Width	1/4"	3/8"
List Price, per ft.	\$.10	\$.15

Raw Hide

Width	1/4"	3/8"
List Price, per ft.	\$.04	\$.06

CAMPBELL V-SHAPED BELTING

In Rolls



Made of three plies of heavy latigo leather, the top layer 3/4" wide, center layer 5/8" wide, and bottom layer 3/8" wide, laced together

with leather thongs. Cannot stretch, rip, or get out of shape. Unequaled for fan belts where pump, etc., are driven from fan belt. Put up in 25 and 50 ft. rolls. May be attached with ordinary belt hooks.

List Price, per ft.	\$.45
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LAMINATED LEATHER V BELTING



Made in three sizes. Best quality, 45° angle, water-proof dressed, oak leather with copper tubular or

steel rivets. An excellent belt for light drives, as it is easily attached and has maximum gripping power of pulleys. Comes in 25 and 50 ft. rolls.

Width	1 1/2"	2"	3"
List Price, per ft.	\$.35	\$.40	\$.45

"V" LINK BELTS

For Fan and Generator Belts, Etc.



A combination of high quality leather and steel links so constructed that only the leather comes in contact with pulley. Has a positive grip but cannot jam in pulleys, and

EX LINK "V" BELT

is intended for use with light tension, eliminating any danger of injury to small bearings. Master Links are furnished for each belt as quoted below, also sold separately.

Width	2"	3"	4"	5"
List Price, per ft.	\$1.00	\$1.35	\$1.60	\$1.80

Extra Master Links

Size	1/4"	3/8"	1/2"	3/4"
List Price	\$.20	\$.25	\$.30	\$.30

CAMPBELL REINFORCED LEATHER FAN BELT



Made of high-grade latigo leather, stitched to special water-proof unstretchable duck. Stitching is best linen thread, waterproofed, rendering this belting impervious to oil, water, or heat and combining the best qualities of fabric and leather belting. Sticks to pulley, will not stretch, therefore cannot slip nor sag. Comes in rolls of 25 and 50 ft. lengths in five widths.

Width.....	$\frac{3}{4}$ "	$\frac{7}{8}$ "	1"	$1\frac{1}{8}$ "	$1\frac{1}{4}$ "
List Price, per ft.....	\$.35	\$.40	\$.45	\$.50	\$.55

CAMPBELL BELT CONNECTORS



Equally good for fabric or leather belts—two sizes, fitting all belts up to $1\frac{3}{4}$ " in width. Easily attached by four small copper rivets. No lacing, no hooks to bend. A single pin makes the lock. Sold in boxes containing 25 wide and 10 narrow fasteners. Complete with rivets or on neat display cards, as illustrated. Display cards carry 10 wide and 6 narrow fasteners, together with attaching rivets.

Campbell Belt Connectors. List Price, Each.....\$.10
Display Cards with 10 Large and 6 Small Connectors. List Price, per Card..... 1.80

HOOD LACING AND BODY CUSHION

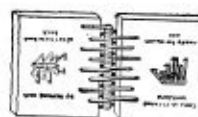


A textile product of exceptional strength and toughness. Treated with a special chemical preparation, making it fireproof. Much superior to rawhide for hood lacing, as it does not dry out or pack down hard like leather or rawhide. Comes in rolls of 100 ft., making a convenient and practical method of handling material of this kind. Wider widths are usually employed for insertion between body and frame or similar places and effectually prevent all squeaks or rattles. Sold in 100 ft. rolls only.

List Price Per		List Price Per	
Width	100 Ft. Rolls	Width	100 Ft. Rolls
$\frac{1}{4}$ "	\$4.00	$\frac{3}{8}$ "	\$7.00
$\frac{3}{8}$ "	5.00	$\frac{1}{2}$ "	8.25
$\frac{1}{2}$ "	6.25	1"	10.50

CONN BELT HINGES

For Fastening Flat Belts



Will permanently hold old or new belts and prevents ends from breaking or tearing out. Easily attached by simply pressing hooks into belt ends and pounding down points. Easily removable. Made in four sizes.

- No. 1 Fits $\frac{3}{4}$ " width belts.
- No. 2 Fits $\frac{7}{8}$ " to 1" width belts.
- No. 3 Fits $1\frac{1}{4}$ " width belts.
- No. 4 Fits $1\frac{1}{2}$ " width belts.

Size.....	1"	2"	3"	4"
List Price, per doz.....	\$.80	\$.80	\$1.00	\$1.00

LAKEWOOD FAN BELT FASTENERS



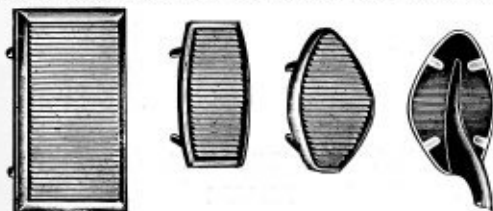
Asimply easily attached hinged fastener that may be applied in a few moments. Two sizes $\frac{5}{8}$ " and 1" will fit all sized fan belts. Fastener comes complete with necessary rivets. For quick selling Lakewood Fan Belt Fasteners are mounted on neat blue easle display boards containing two dozen complete fasteners, 1 dozen small and 1 dozen large with the necessary rivets for attachment.

Retail Price \$.15 each or 2 for \$.25
Lakewood Fan Belt Fasteners, Display Assortment with 24 fasteners, List Price, Each.....\$2.40

PERFECTION PEDAL PADS

For All Cars

Perfection Pedal Pads are molded from high grade solid pliable rubber, upper surface having corrugated ribs to insure a firm grip. Rubber Pad is enclosed in polished nickel plated steel frame which is attached by simply bending over metal prongs around pedal. No bolts or drilling necessary. May be attached by any one in less than one minute.



NOTE.—In ordering be sure to specify year, model, and make of car.

List Prices Perfection Rubber Pedal Pads

Style A.....	\$1.00	Style LX.....	\$1.50
Style C.....	1.50	Style M.....	1.25
Style D.....	1.50	Style MX.....	1.50
Style E.....	1.25	Style N.....	1.25
Style EX.....	1.25	Style O.....	1.50
Style F.....	1.25	Style OX.....	1.50
Style G.....	1.25	Style P.....	1.50
Style H.....	1.25	Style Q.....	1.50
Style HX.....	1.25	Style R.....	1.50
Style J.....	1.25	Style S.....	1.50
Style JX.....	1.25	Style T.....	1.50
Style K.....	1.25	Style TX.....	1.50
Style L.....	1.25		

All Special Pedal Pads except Dodge, Oakland, and Saxon.....\$1.50

Dodge Special, Oakland 32, and Saxon 17-18.

List Price, Each.....\$1.25

Apperson, 1916-8	Special
Apperson, 1916-6—All 1917	Special
Apperson, 1918	C
Auburn, 1916-18	L
Austin, 1916-18	J-X
Briscoe, 1915-17	A
Briscoe, 1918	E
Buick, 1915-16—All other cars	O
Buick, 1917—D-34, 35	M
Buick, 1917—E-49	K
Buick, 1918—E-6, 44, 45, 46, 47, 49, 50	H
Buick, 1918—E-4, 34, 35, 37	E-X
Cadillac, 1914-18	E
Case, 1915-18	Special
Chalmers, 1916-6-48	M-X
Chalmers, 1916-18	Special
Chandler, 1914-18	Special
Chevrolet, 1915-16	Special
Chevrolet, 1917-18	Special
Chevrolet, (490) 1917-18	H-X
Cole, 1916-18	Special
Columbia, 1917	N
Columbia, 1918	T-X
Crow Elkhart, 1916-18	C
Cunningham, 1915-18	Special
Daniels, 1917-18	Special
Davis, 1915-17	T
Davis, 1918	N
Detroit Electric, 1916-18	Special
Doble, 1918	T
Dodge, 1915-18	Special
Dort, 1916-17	Special
Dort, 1918	N-X
Elcar, 1917	Special
Elcar, 1918	Special
Elgin, 1917-18	P
Empire, 1916-17	Special
Empire, 1918	E-X
Ford	D
Franklin, 1914-18	T
Grant	A
H. A. L., 1916-17	M-X
H. A. L., 1918	Special
Haynes, 1915-18	Special
Hollier, 1916-17	A
Hollier, 1918	E
Hudson	G
Hupmobile, 1915-16	Special
Hupmobile, 1917-18	Special
Imperial	J-X
Interstate	T
Jackson, 1915-17	K
Jeffery, 1915-18	C
Jordan, 1917-18	K
King, 1916-18	Special
Kissel-Kar, 1918	Special
Kline-Car, 1917-18	G
Lexington, 1917	E-X
Lexington, 1918	Special
Liberty, 1917	J-X
Liberty, 1918	H

Locomobile, 1913-16	H-X
Locomobile, 1917	Special
Marion, 1916-18	J-X
Marmen	Special
Maxwell, 1915	E-X
Maxwell, 1916-18	Special
McFarlan, 1917	M-X
McFarlan, 1918	Special
Mercer, 1915-17	Q
Mercer, 1918	Special
Metz, 1915-18	Special
Mitchell, 1916-17-18-6-40	Special
Mitchell, 1917-18-6-48	Special
Monroe, 1917-18	L-X
Moon, 1914-17	M-X
Moon, 1918	I
Moore, 1918	N-X
Murray, 1917	L
Nash, 1918	I
National, 1915-18	O-X
Oakland, 32	Special
Oakland, 1914-17	K
Oakland, 1918	Special
Oldsmobile	O
Overland	F
Overland, Model 4, 1918	Special
Overland, 1916-75, 1917-30	H
Packard, 1914-18	K
Patterson, 1916-18	E-X
Pathfinder, 1916-17	Special
Peerless, 1914-18	Special
Pierce-Arrow	C
Premier, 1916	Special
Premier, 1917-18	M-X
Pullman, 1916-17	M-X
Reo	Q
Roamer, 1917	Special
Roamer, 1918—Continental 7-8	C
Roamer, 1918—Dusenber 4-6	R
Saxon, 1917-18	Special
Scripps-Booth	C
Simplex	L
Simplex-Crane	Special
Standard, 1917-18	E
Stearns (Regular)	Special
Stearns (Light Four) 1916-18	Special
Sterling, 1917	E-X
Studebaker, 1915-17	G
Studebaker, 1918	L-X
Stutz, 1915-16	J-X
Stutz, 1917-18	Special
Stutz Bear Cat, 1917-18	Special
Templar, 1918	M-X
Vellie, 1916-18	Special
Westcott	T-X
White, 1915-16	M-X
White, 1917-18	Special
Willys-Knight, 1916-18	F
Winton, 1915-17	Special
Winton, 1918	C

UNIVERSAL EXTENSION PEDAL



Fits every type or shape of automobile brake or clutch. Provides a satisfactory extension enabling the driver to easily reach the pedal and especially convenient for women drivers. One model fits all makes of cars. Attached by means of sliding clamp over pedal already on car. Furnished with or without rubber cushion.

Universal Extension Pedal. List Price per pair without cushion pad.....\$4.50

Universal Extension Pedal. List Price per pair with rubber cushion pad.....\$5.50

ALUMINUM AUTO HEEL REST



Made of cast aluminum. Just the thing to place behind the accelerator pedal or clutch or brake pedals. Cannot rust as it is made of aluminum. Made in four heights.

Aluminum Auto Heel Rest, height $\frac{1}{2}$ ".

List Price, Each.....\$.90

Aluminum Auto Heel Rest, height 1".

List Price, Each......95

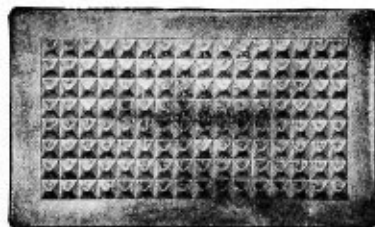
Aluminum Auto Heel Rest, height $1\frac{1}{2}$ ".

List Price, Each.....1.10

Aluminum Auto Heel Rest, height 2".

List Price, Each.....1.25

ALUMINUM HEEL PLATES



Consists of heavy sheet of 6"x10" aluminum with $\frac{1}{4}$ " pyramids and $\frac{1}{2}$ " plain borders. Make a neat appearance on the finest cars. Drilled for screw holes, making it easily attachable.

Aluminum Heel Plates. List Price.....\$.80

STANWOOD ADJUSTABLE ACCELERATOR FOOT REST

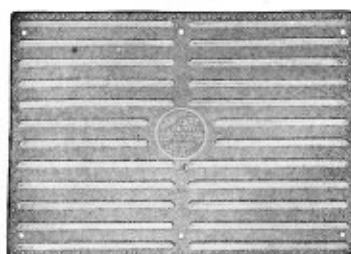


Consists of a deeply corrugated rubber roller fastened to a metal axle and revolving in the steel uprights as shown. Adjustable to any desired position by simply loosening two small nuts. Neatly finished in black enamel and nickel plate.

Stanwood Adjustable Accelerator Foot Rest.

List Price\$1.60

STANWOOD RUBBER AND METAL STEP PLATE

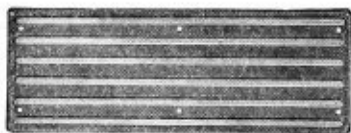


Consists of a perforated sheet steel base plate completely enclosed in rubber which is vulcanized to the metal. Rubber surface of the plate is provided with longitudinal ribs which act as foot scrapers in entering car. Size 8"x11"

complete with screws, nuts, and lock washers for attachment to floor.

Type "C". List Price.....\$1.60

STANWOOD ACCELERATOR HEEL PLATE



Exactly like type "C" Step Plate but $\frac{1}{2}$ the size, measuring 4"x11 $\frac{1}{2}$ ". Screws are not furnished with this plate.

List Price\$.85

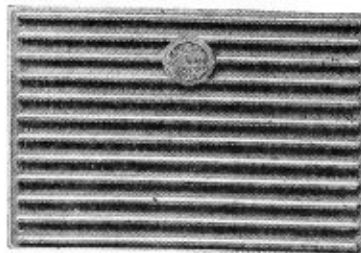
STANWOOD PEDAL PLATE



Designed for beneath the accelerator pedal. Identical in construction with accelerator heel plate excepting in size which is 4"x4".

Stanwood Pedal Plate. List Price.....\$.50

MARATHON ALL-RUBBER STEP PLATE



A sturdy step or heel plate, size 7 $\frac{1}{2}$ " by 11 $\frac{1}{2}$ " that is made from high grade rubber. Heavy rubber corrugations minimize wear and add to its appearance. Just the thing for running boards

or beneath clutch and brake pedals. Their low price makes them especially popular. Order a dozen today for stock and see how quickly they go. Attached by small nails or screws.

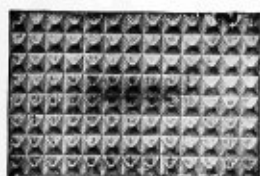
NOTE—Price does not include screws for attaching.

Marathon All-Rubber Step Plate.

List Price, Each.....\$1.25

SHEET ALUMINUM MATTING

For Floor Running Boards.



A very durable covering for floor boards as it will not tarnish or rust and is easily cleanable. Will outlast the car itself. Heavy 24 gauge aluminum rolled into pyramids, 64 pyramids to the inch. Carried in the following widths: 10" and 12 1/2".

Full rolls 25 to 30 ft. in length.

Aluminum Matting. List Price per square ft.\$.80

RUNNING BOARD MOLDING



Made of Aluminoid. A white non-rusting heavy composition metal. Pliable, easily bent, tough as aluminum. Size 3/4"x7/8", 20 gauge, 13 ft. lengths only.

Running Board Molding. List Price per ft.\$.25

RUNNING BOARD COCA MAT



A heavy coca fibre mat size 12"x8" for attachment to running boards as foot wiper, etc. This mat is equipped with heavy wire spring clamps which securely fasten it to running boards. Invaluable in "muddy" weather as it keeps the interior of the car clean.

Running Board Coca Mat. List Price\$1.50

HOOD FASTENERS



No. A-40



No. P-44

No. A-40 Hood Fastener. List Price, Each\$.75
No. P-44 Hood Handle and Fastener for Trucks.
List Price, Each 1.50

HOOD HANDLES



Made of steel rod black enameled finish. Lock to be attached by lock washer and nut.

Hood Handles. List Price, Each\$.35

TOP PROP NUTS



No. 296



No. 190

For holding top bows to body of car. Black Japanned finish. Tapped for 7/16" thread. Two sizes. No. 296 1 1/4" Face. List Price, Each\$.05
No. 190 1 1/2" Face. List Price, Each06

ROBE RAILS



The latest type that will fit any car. Neatly finished in black rubber enamel. Made of 1 1/2" solid metal.

Robe Rails. List Price, Each\$1.00

FOOT RAILS



Reinforced seamless brass tubing. Highly polished nickel plate, with black enamelled end parts. Hinged as shown in illustration.

Foot Rails. List Price\$2.00

DOOR VENTILATORS

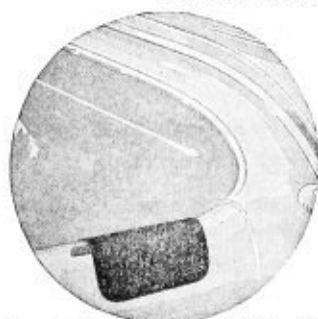


As shown in illustration consists of a hooking device which holds the doors open for extra ventilation in hot weather. Cannot rattle. Attached by means of four small screws. Sold in pairs.

Door Ventilators. List Price, per pair\$2.00

HAND PADS

For Automobile Doors



A thin sheet of easily bent metal is enclosed between the front and back sections of the leather pad making it adjustable for any shape door simply by pressure of the hand. Cannot curl or spring out of shape in use. Add greatly to the appearance of the car as they prevent

finger-marks on the highly polished surface of the door. Size 4 1/4" x 7 1/4". Packed 12 pads in box.

No. 33 Long Grain Black Leather. List Price, Each\$1.00

No. 88 Tan Spanish Leather. List Price, Each 2.00



Curtain Fasteners

LIFT-THE-DOT FASTENERS

Used as standard equipment on curtains on the majority of cars to-day. Of the simplest construction, easy to apply, and making an instantly attachable or detachable fastening for automobile curtains. Cannot tear or pull out of curtains. Finished in black and nickel or all black. Standard packages contain 1 gross of one style, size, and finish complete fasteners.

Prices include complete fasteners with sockets and clinch plates.

WOOD SCREW TYPE WITH OCTAGON BASE

- For single curtains No. 654, complete.
List Price, per doz. \$.90
For double curtains No. 655, complete.
List Price, per doz. \$ 1.25
- Nos. 654, 655

WOOD SCREW TYPE WITH HEXAGON BASE

- For single curtains No. 652, complete.
List Price, per doz. \$ 1.20
For double curtains No. 653, complete.
List Price, per doz. \$ 1.60

WOOD SCREW TYPE WITH SLOTTED HEAD

- For single curtains No. 650-W, complete.
List Price, per doz. \$ 1.10
For double curtains No. 651-W, complete.
List Price, per doz. \$ 1.45
- Nos. 650W-651W

CLINCHER TYPE

Complete with Back Plate.



Back Plate



Nos. 295-297

- For single curtains No. 295, complete.
List Price, per doz. \$.90

- For double curtains No. 297, complete.
List Price, per doz. \$ 1.25

SLOTTED MACHINE SCREW TYPE

For Windshields, etc.

- For single curtains, 1/4" thread, No. 280, complete.
List Price, per doz. \$.80
For double curtains, 1/4" thread, No. 281, complete.
List Price, per doz. \$ 1.15
- Nos. 280, 281

NUTS

- Nos. 280 and 281. List Price, per doz. \$.05

FLAT BASE—TWO SCREW TYPE

- For single curtains No. 248, complete.
List Price, per doz. \$ 1.20
For double curtains No. 249, complete.
List Price, per doz. \$ 1.95
- Nos. 248, 249, 250



OVAL BASE—TWO SCREW TYPE

- For single curtains No. 257, complete.
List Price, per doz. \$ 1.60
For double curtains No. 258, complete.
List Price, per doz. \$ 1.95

CONCAVE BASE—TWO SCREW TYPE

- For attachment to Windshields, etc.
For single curtains No. 260, complete.
List Price, per doz. \$ 2.00
For double curtains No. 261, complete.
List Price, per doz. \$ 2.35

SOCKET Nos. N608-609



This socket is regularly furnished with all Lift-the-Dot Fasteners and eliminates any danger of tearing out of curtains. Clinch plates are included with Sockets.



Socket No. 608, complete, with clinch plates.

- List Price, per doz. \$.35
Socket No. 609, identical with socket No. 608, excepting that prongs are extra long for use with very thick material. Sold complete with clinch plates.
List Price, per doz. \$.40

LONG PRONG SOCKETS

- No. 609. Complete with Clinch Plates.
List Price, per doz. \$.40

LIFT-THE-DOT TOOLS

While Lift-the-Dot Fasteners may be applied without the use of special tools where much shop and curtain repair work is done, these convenient Lift-the-Dot Tools permit a great saving in time as well as insuring a better job of attaching.



No. 169



No. 151



No. C-9-2

No. 151 Punch is for cutting the material for the socket, and must be used for a clean job.

List Price, Each \$ 1.60

No. 169 Special Screw Driver is for screwing in only screw studs of either octagon or hexagon base or slotted head type. Specify which style is required.
List Price, Each \$.80

No. C-9-2 is built for use with Yankee Screw Drivers. Will quickly and easily attach these screw fasteners. Specify which style is required.
List Price, Each \$.70

VELTEX CARPET FASTENERS

CLINCH TYPE



An invisible fastener for attaching carpet to floor of car. Made of heavy gauge brass, black finish. No. A-4157. Complete as illustrated.

List Price, per doz. \$.95

SEW-ON TYPE

Similar to the Clinch Type, but does not include clinch ring. Socket is sewed to carpet with thread. No. 4157 Complete. List Price, per doz. \$.80

CURTAIN FASTENERS



Made of brass and sold complete with oval eyelets and back plates. Carried in stock in brass, nickel or black japanned finish. Prices include eyelets and back plates complete ready for attachment.

For single No. 6. List Price, per doz. \$.75

For double No. 7. List Price, per doz. 1.00

For triple No. 8. List Price, per doz. 1.55

Oval Eyelets and Back Plates only, complete. List Price, per doz.30

UPHOLSTERY NAILS

Metal enameled to imitate leather. The same size as used in attaching curtains, upholstery to seats, etc.

Carried in dull black and glossy black. Length of stem, $\frac{1}{2}$ ".

Upholstery Nails. List Price, per 100 \$.25

SHEET CELLULOID



Best quality clear celluloid sheets $\frac{1}{32}$ " thick. Carried in stock in two sizes.

List Price per sheet

Sheet Celluloid, $\frac{1}{32}$ " x 20" x 36" \$2.25

Sheet Celluloid, $\frac{1}{32}$ " x 20" x 50" 2.65

"STIK-TITE" TOP PATCHING STRIPS



"Stik-Tite" Roof

Patches not only mend tops in a satisfactory and permanent way, but top will be absolutely waterproof wherever "Stik-Tite" Patches are attached.

These strips are convenient for all repair shops, as they can be cut to fit any repair needed in roof, side or back curtains. Full instructions printed on every strip. Packed dozen strips in a box.

No. A-635—"Stik-Tite" Roof Patching Sheet, size 3"x12". Made of Auto Rubber, suitable for patching Ford and other imitation leather tops. List Price \$.50

No. B-637—Same as above, made of Standard Mohair, 3"x12". List Price60

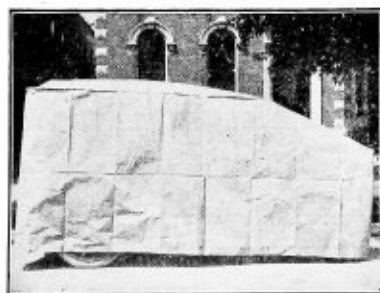
No. D-638—Same as above, made of Silk Mohair, 3"x12". List Price70

No. F-639—Same as above, made of Long Grain Motor Fabric for Repairing Pantasote, Dreadnaut or Neverleak Tops, 3"x12". List Price75

No. A Patches made of Auto Rubber, especially for Fords; 11 assorted sizes in box. List Price, per box40

No. B Patches, for mending Mohair tops; 11 assorted sizes in box. List Price, per box50

PAPER AUTO COVERS



Made of extra heavy paper, securely reinforced at edges to prevent tearing and completely covering car. The best and cheapest method of covering a car laid up for the Winter and protecting it from dust, dirt, moisture, or injury to paint. Made in four sizes: Large size for cars over 115" wheel base; Medium size for cars less than 115" wheel base; Ford size and Electric size.

Large Size. List Price, Each \$2.50

Medium Size. List Price, Each 2.10

Ford Size. List Price, Each 1.75

Electric Size. List Price, Each 2.10

LICENSE PLATE STRAPS

Reinforced



Consists of a strong genuine black leather strap 1 inch by 15 inches, reinforced on the inside with a riveted on steel strip preventing chafing or cutting through strap by edges of license plates. Excellent for Dealers who frequently change plates.

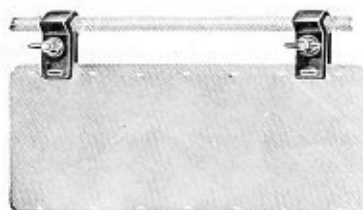
License Plate Straps. List Price, per pair.....\$.75

LEATHER STRAPS



Excellent quality genuine black leather straps, frequently used for attaching license plates, fastening down top bows, etc.

Leather Straps $\frac{5}{8}$ " x 20". List Price, Each\$.25
 Leather Straps 1" x 30". List Price, Each..... .60
 Leather Straps 1" x 36". List Price, Each..... .75
 Leather Straps 1" x 46". List Price, Each..... 1.00

LICENSE PLATE HOLDERS
No. 5

Consists of two small steel clamps black Japanned finish to prevent rusting which enable the License Plates to be fastened to headlight crossbar without the aid of tools. Equipped with winged nuts. Fits all license plates with oblong slots. Guaranteed not to rattle.

License Plate Holders No. 5. List Price, per pair \$.30

LAMBERT LICENSE PLATE HOLDER



Fits practically every type of car and is adjustable in a moment. Made of steel nickel plated to prevent rusting. No bolts required. Cannot shake loose. Attachable in a moment by hand without the use of tools. Simply slip holder through slots in plate and bracket and turn to an angle of 90°. One pair required to attach each License Plate.

Lambert License Plate Holders.

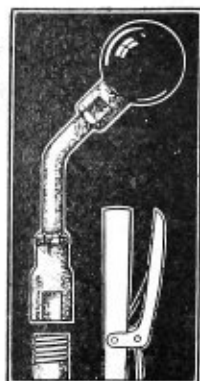
List Price, per pair.....\$.50

COUNTER DISPLAY CASE

The best way to sell Lambert License Plate Holders is to display them on your counter by means of the Lambert Counter Display Card which holds and displays 25 pairs of Lambert License Plate Holders. Furnished free on orders for 25 pairs of Lambert License Plate Holders.

Display Card Complete with 25 pairs of Lambert License Plate Holders. List Price.....\$12.50

GEAR SHIFT LEVER EXTENSION



Designed for use on cars where the gear shift lever is too short or inconveniently placed. This handy gear shift lever extension lengthens the lever about 7 inches and enables the handle to be tilted to any desired position. Made of steel finished in polished nickel plate with black enamel hard wood handle as shown in illustration.

Car	Extension No.	List Price
Apperson	16	\$1.50
Auburn 1918	9	1.50
Buick 1916	7	1.50
Buick, 1917-18-19 and 1920	1	1.50
Cadillac	6	1.50
Chandler 1917-18-19	9	1.50
Chandler 1920	1	1.50
Chevrolet 1919-20	1	1.50
Chevrolet 1917-18	12	1.50
Cole	11	1.50
Columbia 1920	8	1.50
Dodge	2	1.25
Elgin	4	1.50
Essex	17	1.50
Franklin 1917-18-19	20	1.50
Grant	8	1.50
Hudson	14	2.00
Hupmobile	15	2.00
Haynes Model 30, 20, 35	10	1.50
Haynes Model 36	22	1.50
Haynes 1918 and 1920	22	1.50
Haynes 1919	10	1.50
Jordan	12	1.50
Kissel 6 cyl.	12	1.50
Lexington 1916-17-18	12	1.50
Liberty Six	5	1.50
Maxwell	1	1.50
Nash	2	1.25
Oakland	5	1.50
Oldsmobile	18	1.50
Overland Model 75 and 90	2	1.25
Overland Model 85	15	2.00
Paige	12	1.50
Peerless	8	1.50
Reo	8	1.50
Roamer	9	1.50
Saxon	19	2.00
Studebaker	3	1.50
Willy Overland	15	2.00

Note. No. 15 Gear Shift Lever Extension may be used on any car having a solid ball on top of gear shift lever.

This list is not entirely complete and if you do not see your car listed, mention name, model, and year of car and we will furnish the proper Gear Shift Lever Extension.

FOLDING CHAIRS

No. 90 Door Type

Rests on the door sill with no weight on the door hinges. Held in place by hooking over top of the door. Hook covered to prevent injury to paint. Door cannot open when seat is in use. Intended especially for use on Fords but will fit any car with doors from 17½" to 19" high. Frame black japanned with padded black imitation leather seat. Size of seat 10½"x11". Height from floor to seat 15". Size folded 12"x19"x3". Weight 4 lbs.



No. 90 Folding Seat. List Price.....\$2.00

"THIRD" SEATS



Convenient, compact, extra seat made without back rest as illustrated. Folds up small enough to put in a tool box. Welded steel frame black japanned. Covered with handsome brussels carpet. Made in three sizes.

No. 20—Seat 9x9¾", height 11", weight 3 lbs.

List Price.....\$1.25

No. 35—Seat 10½"x12", height 16", weight 5½ lbs.

List Price.....1.50

No. 10 intended for use on tonneau seat raising the third seat slightly higher than the regular cushion and allowing room for three people in cars with small tonneau. Size 8x10", height 7", size folded 10½"x12½"x1¼". Weight 2¾ lbs.

No. 10 Folding Seat. List Price.....\$1.00

FOLDING CHAIRS



Just the thing for extra passengers. Comfortable, compact, strong, light in weight with no protruding rivets or bolts to tear clothing. Welded steel frames black japanned to prevent rusting. Made in three sizes.

Child's Size

Neatly upholstered in black imitation leather. Seat 9"x9¾". Height to seat 11". Size folded 12½"x16"x2½". Weight 5 lbs.

No. 56 Folding Chair. List Price, Each.....\$2.50

Auto Size

Seat 10½"x11". Height of seat, 16". Size folded, 13½"x20½"x2½". Weight 7¾ lbs.

No. 106 Folding Chair. List Price.....\$3.00

Camp Size

Seat 12"x12". Height of Seat 17". Size folded 14½"x22½"x3". Weight 8½ lbs.

No. 206 Folding Chair. List Price.....\$3.50

"E. Z." BACK AUTO CUSHION



Intended as a back rest enabling the driver to reach the pedals more easily. Invaluable on long drives. Made tapered in shape. Size 15" x 16" tapering from 4½" at one side to 1¼" at other. Made of best quality black artificial

leather with resilient padding and with corded and welted edges button tufted.

"E. Z." Back Auto Cushion. List Price.....\$2.50

COMFORT CUSHION

Good for any purpose, but especially valuable as a back rest on long drives. Made of best quality imitation black leather with welted edges and filled with soft springy padding. Size 15" x 15".



Comfort Cushion. List Price.....\$2.50

RUSH SPOKE LOCK

"Thief-Proof"



The only device which prevents the possibility of a car being stolen. Yet in an emergency permits it to be moved a few feet along the street. Consists of two pieces of heavy malleable iron enameled bright red with a "non-pickable" Corbin lock. The Rush Spoke Lock is hinged at base and clamps around the tire and spoke with lock. The car cannot be stolen as the lock pounds on the street notifying every policeman that it is in unlawful hands. Made in four sizes. Fits all styles of rims.

In ordering be sure to specify size of tire.

No. 0 Rush Spoke Lock, for 3 inch Fabric or Cord Tires. List Price, Each.....\$7.00

No. 1 Rush Spoke Lock, for 3½ inch Fabric or Cord Tires. List Price, Each.....8.00

No. 2 Rush Spoke Lock, for 4 inch Fabric or Cord Tires. List Price, Each.....9.00

No. 3 Rush Spoke Lock, for 4½ inch and larger Fabric or Cord Tires. List Price, Each.....10.00

THEFT-PROOF AUTO LOCK

"15% Reduction on Theft Insurance"

A simple, practical device which is permanently attached to steering column and which locks the steering gear rigidly and prevents turning of the front wheels from the "straight-ahead" position. Effectually prevents car from being towed or driven. Legal in all states or cities. Cannot be tampered with and is self-locking—in other words, automatically snaps into locked position. Easily attached by any mechanic in a few moments with the aid of a screw driver and breast drill. Small in size, cannot get out of order; in the most convenient position on the steering column. Made of steel, finished in polished nickel plate with Yale lock and two keys. Made in six sizes.

NOTE.—The following list is not guaranteed but is furnished by the manufacturers as being correct. In ordering be sure to specify make of car, model and year, also diameter of steering column.

SIZE "A," 2"—Fits Apperson, H. A. L., Marmon, Mercer, Moline Knight, National, Packard, Stutz, Winton.

SIZE "B," 1 3/4"—Fits Abbott-Detroit, American 6, Anderson, Auburn, Buick, Cadillac, Case, Chandler, Cleveland, Cole, Columbia 6, Dorris, Davis, Elcar, Elgin, Fiat, Haynes, Hudson, Hupmobile, Model M, Jeffrey, Jordan, King, Kissel, Lexington, Lozier, Mitchell, Moon, Nash, Oldsmobile, 6 Cyl.; Overland, Model 83; Paige, Pathfinder, Pierce-Arrow, Pilot, Roamer, Standard 8, Stanley Steam Car, Stearns-Knight, Stevens 6, Studebaker 6, Templar, Westcott, Willys-Knight, Willys 6.

SIZE "C," 1 1/2"—Fits Dodge, Reo, Franklin, Series 8.

SIZE "D," 1 1/4"—Fits Allen, Chalmers, Chevrolet, Models B and B; Crow-Elkhart, Essex, Grant, Hollier, Hupmobile, Model R, Series 2nd and 3rd; Interstate, Jackson, Liberty 1920, Monroe, Oakland 1920, Oldsmobile, 8 Cyl.; Peerless, Ross, Scripps-Booth, 8 Cyl.; Studebaker, 4 Cyl.; Velie, White.

SIZE "F," 1 1/4"—Fits Franklin, Series 9.

Theft-Proof Auto Lock, all sizes.

List Price, Each.....\$15.00

**CABLE TIRE LOCK
Without Padlock**


Consists of heavy twisted hardened steel cable enclosed in leather cover. Ends welded to steel eye hooks.

Cable Tire Lock, without padlock.

List Price, Each.....\$1.25

**AMERICAN TIRE LOCK CHAIN
With Padlock**

A strong serviceable flat link chain enclosed in heavy leather cover. Equipped with neat padlock and two keys. Made in two lengths 36 inch and 42 inch. Packed one dozen in carton.



No. 62 American Tire Chain Lock, with padlock, 36 inches long. List Price, Each.....\$1.50

No. 621 American Chain Lock, with padlock, 42 inches long. List Price, Each.....\$1.65

**AMERICAN TIRE LOCK CHAIN
Without Padlock**


Made of flat link case hardened steel chain enclosed in heavy imitation leather cover. Flexible, strong, and serviceable. Made in two lengths, 36 inches and 42 inches. Price does not include lock. Packed one dozen in carton.

No. 36 American Tire Lock, without padlock, length 36 inches. List Price, Each.....\$.75

No. 42 American Tire Lock, without padlock, length 42 inches. List Price, Each.....\$1.00

**BUCKEYE TIRE CHAIN LOCK No. 2
With Padlock**


Consists of an extra strong flat case hardened steel chain enclosed in best quality heavy imitation leather cover. Comes equipped with strong padlock and two keys.

No. 2 Buckeye Chain Tire Lock, with Padlock. List Price, Each.....\$1.60

**BUCKEYE TIRE CHAIN LOCK No. 1
Without Padlock**

Made of strong flat linked case hardened steel chain enclosed in imitation leather cover. Length 36 inches. A practical low priced tire lock that is always a big seller.



No. 1 Buckeye Chain Tire Lock, Without Padlock. List Price, Each.....\$1.00

Yale Locks

The Locks illustrated on these pages are especially chosen as best adapted for the Automobile Trade. Each Lock equipped with two keys. Locks packed separately with keys, six to a carton.

**No. 830**

1½" cast bronze case with steel shackle. Mechanism pin tumbler type. Uses key No. 13½.

No. 830. List Price, Each\$4.00

No. 836 "Standard"

1½" cast bronze case, wheel finish with nickel plated steel shackle. Mechanism lever tumbler type. Uses key No. 87.

No. 836. List Price, Each\$3.75

No. 815 "Standard"

1" cast bronze case wheel finish. Shackle bronze wheel finished. Mechanism lever tumbler type. Uses key No. 86.

No. 815. List Price, Each\$2.60

**No. 903 "Bulwark"**

1½" cast iron case bower barred. Shackle buffed bronze. Mechanism pin tumbler type. Uses key No. 116½.

No. 903. List Price, Each\$2.75

**No. 563 "Defiance"**

1½" seamless steel case bower barred. Shackle nickel plated steel. Mechanism lever tumbler type. Uses key No. 77.

No. 563. List Price, Each\$1.90

**No. 115J "Vulcan, Jr."**

2" steel case ivory black finish. Shackle nickel plated steel. Mechanism ward type. Uses key No. 115.

No. 115J. List Price\$.85

**No. 223 "Titan"**

1" case bower barred. Panels wrought steel brass plated. Shackle brass plated steel. Mechanism ward type. Uses Key No. 223.

No. 223. List Price, Each\$1.00

**No. 1615S "Terror"**

2" steel case ivory black finish. Shackle steel nickel plated, 2" long. Mechanism 2 lever tumblers. Uses key No. 615.

**No. 633 "Fidelity"**

1½" steel case black enameled with wrought brass caps, buffed. Shackle blue steel. Mechanism lever tumbler type. Uses key No. 25.



No. 1615S. List Price, Each\$1.25

No. 633. List Price, Each\$1.70

Yale Locks

The locks illustrated on these pages are especially chosen as best adapted for the Automobile Trade. Each lock equipped with two keys. Locks packed separately with keys; six to a carton.

**No. 1563 "Defiance"**

For Spark and Throttle Levers

Prevents their being moved. The cheapest and simplest way of guarding a car against theft. Case 1½" seamless steel bower barbed. Shackle nickel plated steel. Length of shackle 1¾". Mechanism three lever tumblers. Uses key No. 77.

List Price, Each.....\$2.75

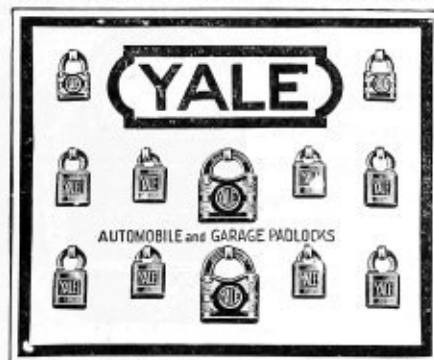
No. 2830

Pin Tumbler

1½" in. bronze case with extra long steel shackle. Mechanism 5 pin tumblers.

List Price, Each.....\$4.20

YALE LOCKS—DISPLAY BOARD

**No. N5 Padlock Assortment**

Size 1¾"x15¾"

The padlocks on this card are especially adapted for use on automobiles and carriages. The neat appearance of the card and the attractive manner in which these locks are displayed is sure to increase your sale of locks.

Assortment includes the following locks:

No.	Size	Case	Tumblers
853	2"	Bronze	4 Lever
815	1"	Bronze	3 Lever
D1701	1½"	Bronze	4 Pin
D701	1½"	Bronze	4 Pin
1701	1½"	Bronze	4 Pin
701	1½"	Bronze	4 Pin

Should be retailed for \$30.00 to \$40.00.

No. N5 Padlock Assortment. List Price, Each \$40.00

No. 681J

1 inch steel case, ivory black finish. Shackle steel nickel plated. Mechanism lever, tumbler type. Uses key No. 681.

No. 681J. List Price, Each.....\$.90

No. 1671J

1 inch steel ivory black finish. Shackle malleable iron nickel plated. Mechanism lever tumbler type. Uses key No. 671.



No. 1671J. List Price, Each.....\$.50

No. 164X "Alert"

1¾" steel case ivory black finish. Shackle nickel plated steel. Mechanism ward type. Uses key No. 164.

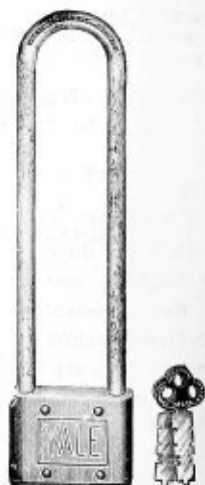
No. 164X. List Price, Each.....\$.90

No. 2565 Padlock

For Motorcycles and Demountable Rims

This lock is provided with extra long shackle which encircles both front forks including the spokes, thus preventing wheels from turning. Will fit all makes of machines. Also used for locking demountable rims on carriers. Case 2" seamless steel. Shackle steel nickel plated. Mechanism four lever tumblers. Length of shackle 6¾". Uses key No. 78.

No. 2565. List Price, Each.....\$3.00



TOOL BOXES

TYPE "B"



Made of steel with electrically welded joints. Bottom welded to lugs for attachment to running board. Handsomely finished in black baked-on enamel. Cover has rounded edges, as shown in illustration. Each box equipped with Yale locks and keys.

Type	Length	Inside Width	Height	List Price
B-1210	11 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "	\$6.00
*B-148	13 $\frac{1}{2}$ "	7 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	5.25
B-178	16 $\frac{1}{2}$ "	7 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "	6.00
*B-179	16 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "	6.00
*B-188	17 $\frac{1}{2}$ "	7 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "	6.00
B-1810	17 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	10"	6.75
B-1812	17 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	12"	7.50
B-219	21"	8 $\frac{3}{4}$ "	9"	6.75
*B-229	22"	9"	10 $\frac{5}{8}$ "	7.50
*B-2410	23 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	10 $\frac{5}{8}$ "	8.25
†B-2810	28 $\frac{3}{8}$ "	10 $\frac{3}{8}$ "	10 $\frac{5}{8}$ "	10.50

* Indicates the most popular sizes.

† This box has two suit case catches in addition to lock.

TOOL BOXES

For Fords

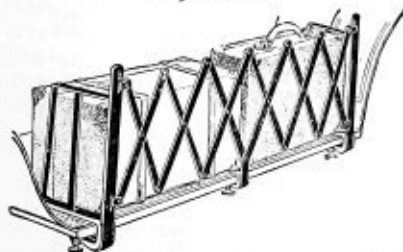


These boxes are specially intended for Ford cars. All seams electrically welded and finished in handsome black baked-on enamel. Equipped with Yale lock and key. Height of these Tool Boxes permits sufficient clearance to open Ford doors.

Type	Length	Inside Width	Height	List Price
*B-1886	17 $\frac{1}{2}$ "	7 $\frac{1}{2}$ "	6 $\frac{3}{4}$ "	\$5.25
*B-2296	22"	9"	6 $\frac{3}{4}$ "	3.35
B-2416	23 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	6 $\frac{3}{4}$ "	6.75

STANDLEY LUGGAGE CARRIER

Adjustable



Being adjustable to any length from 10" to 65". The Standley Luggage Carrier handles any size trunk or suit cases. As shown in illustration, it clamps to the running board of car and can be instantly attached or detached without the use of any tools. Each clamp is provided with lock nuts to prevent jarring or working loose. When not in use it may be folded up and carried in the tool box. Finished in neat black rust-proof enamel.

Standley Luggage Carrier. List Price.....\$6.00

DUSTERS

Carried in a variety of materials in slate grey or khaki colors.

No. 400 Duster. Tan Lineen, excellent quality with patch pockets. All sizes.
List Price, Each.....\$4.00

No. 410 Duster. Slate Grey Lineen. A high grade duster made with patch pockets. All sizes.
List Price, Each.....4.50

No. 425 Heavy Shop or Work Duster. Khaki colored, made of extra strong, durable cloth. Particularly recommended for mechanics, etc. All sizes.
List Price, Each.....5.50



PROTEXALLS

One-piece Overalls. Especially designed for mechanics' use. Made large and roomy. Does not pull at the seat or neck. Buttons down entire front, covered by fly, thus protecting automobile surface from scratching if wearer is working around car. Made of closely woven, fast color, olive khaki cloth that excludes grease or dirt and withstands the hardest wear. Absolutely protects the clothes. Will not shrink.

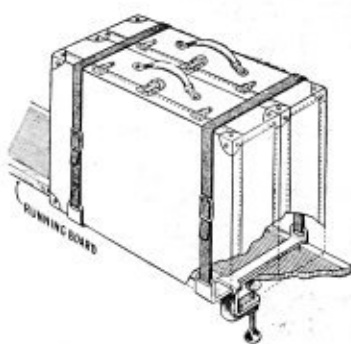
In ordering be sure to specify size desired.



PROTEXALL
OVERALL SUITS

Protexalls. List Price, Each.....\$5.50

JAY & DEE LUGGAGE CARRIER



A quick detachable device for attachment to running board, enabling 2 suit cases to be securely held. Will fit any car, adjustable as desired. Attaches by means of two simple screw clamps—no unsightly screws or drilling of running board. The clamp irons hold luggage

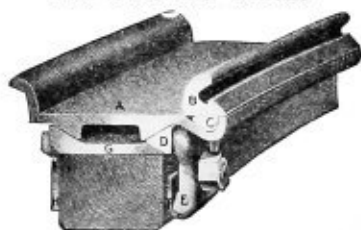
slightly above running board, thus keeping out moisture. When not in use simply unclamp and carry in tool box. Neatly finished in black enamel. Complete with straps.

Jay & Dee Luggage Carrier. List Price, per set, \$3.00

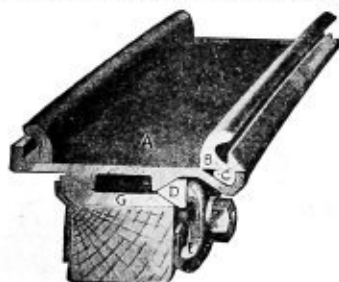
PITTSBURGH AUTO EQUIPMENT CO. FIRESTONE DEMOUNTABLE RIMS

Complete Equipment for Four Wheels and One Spare Rim
including Socket Wrench

TYPE "C" STRAIGHT SIDE ONLY For Cars and Trucks



TYPE "B" UNIVERSAL STRAIGHT SIDE OR CLINCHER



- A—Rim Base
B—Side Ring
C—Locking Ring
D—Clamping Ring
E—Clamp
F—Clamp Bracket
G—Felloe Band
H—Back Washer

Size	Type	Consumers' Bulk Prices	Excise Tax	Per Set Including Excise Tax	Spare Rim Prices	Excise Tax	Spare Rim Including Excise Tax
30x3 1/2	F	\$26.73	\$.77	\$27.50	\$3.18	\$.07	\$3.25
32x3 1/2	E	27.71	.80	28.51	4.39	.13	4.52
32x4	C	40.12	1.16	41.28	6.50	.19	6.69
32x4	E	29.70	.86	30.56	4.78	.14	4.92
33x4	C	41.01	1.18	42.19	6.67	.19	6.86
33x4	E	30.40	.88	31.28	4.85	.14	4.99
34x4	C	42.19	1.21	43.40	7.07	.20	7.27
34x4	E	31.09	.90	31.99	5.09	.15	5.24
32x4 1/2	C	46.32	1.33	47.65	7.21	.21	7.42
32x4 1/2	E	33.75	.97	34.72	5.43	.16	5.59
34x4 1/2	B	53.24	1.53	54.77	8.60	.25	8.85
34x4 1/2	C	49.05	1.41	50.46	7.69	.22	7.91
34x4 1/2	E	35.06	1.03	36.09	5.73	.17	5.90
34x5	C	73.37	2.11	75.48	9.20	.27	9.47
36x6	C	90.19	2.60	92.79	11.84	.37	12.18
38x7	C	93.82	2.70	96.52	12.33	.36	12.69
40x8	C	113.11	3.26	116.37	15.70	.45	16.15
44x10	C	170.00	4.90	174.90	22.60	.65	23.25

* NOTE—Size 34x4 Type "E" and "C" and size 34x4 1/2 Type "B" became obsolete during 1920.

Above prices do not include application to wheels.

PARTS LIST PNEUMATIC RIMS

Size	Consumers' Bulk Prices	Excise Tax	Price Including Excise Tax
SIDE RINGS			
4"	\$1.39	\$.04	\$1.43
4 1/2"	1.65	.05	1.70
LOCK RINGS			
4"	1.29	.04	1.33
4 1/2"	1.53	.04	1.57
CLAMP RINGS			
3 1/2", 4", 4 1/2"	.64	.02	.66
FELLOE BANDS			
3 1/2"	1.53	.04	1.57
4"	1.86	.05	1.91
4 1/2"	2.10	.06	2.16

Consumers' prices are net.

Above prices do not include application to wheels.

In ordering parts for Firestone Rims consult cuts shown and give names designated for each part.

TRUCK TYPE PNEUMATIC EQUIPMENT

Rim Equipment for 2 Single Wheels Complete
5", 6", 7", 8", 10" TYPE "C" RIMS

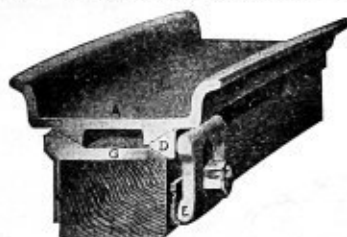
Size	Consumers' Bulk Prices	Excise Tax	Per Set Including Excise Tax
34 x 5 "C"	\$32.09	\$.92	\$33.01
36 x 6 "C"	39.16	1.13	40.29
38 x 7 "C"	40.73	1.17	41.90
40 x 8 "C"	48.71	1.40	50.11
44 x 10 "C"	73.70	2.13	75.83
RIM BASE			
34 x 5 "C"	7.81	.23	8.04
36 x 6 "C"	9.45	.28	9.73
38 x 7 "C"	10.24	.30	10.54
40 x 8 "C"	12.75	.37	13.12
44 x 10 "C"	17.70	.51	18.21
SIDE RINGS			
34 x 5	2.08	.06	2.14
36 x 6	2.55	.08	2.63
38 x 7	2.55	.08	2.63
40 x 8	3.55	.10	3.65
44 x 10	5.35	.16	5.51
LOCK RINGS			
All Sizes	1.56	.05	1.61
CLAMP RINGS			
5", 6", 7", 8"	.57	.017	.587
10"	.64	.019	.659
FELLOE BANDS			
34 x 5 "C"	3.47	.10	3.57
36 x 6 "C"	4.00	.12	4.12
38 x 7 "C"	4.43	.13	4.56
40 x 8 "C"	4.90	.14	5.04
44 x 10 "C"	7.45	.27	7.72

ACCESSORIES PRICES FOR 5", 6", 7", 8", 10"

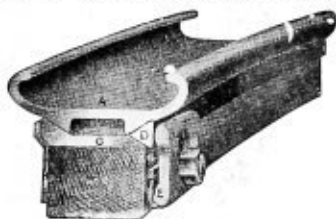
Bolts, 5", 6", 7"	.122	.004	.126
Bolts, 8"	.174	.005	.179
Bolts, 10"	.33	.010	.340
1/2" Nuts	.052	.002	.054
Clamps	.165	.005	.170
Back Washers	.035	.001	.036
1/2" Wrenches	.87	.025	.895
ACCESSORIES PRICES FOR 3 1/2", 4", 4 1/2" B, C & E RIMS			
Clamps	.13	.004	.134
Brackets	.012	.0004	.0124
Bolts, all sizes	.089	.003	.092
Washers	.026	.001	.027
Valve Sleeves	.089	.003	.092
Latches, E Rims	.254	.007	.261
3 1/2", 4" Rim Tools	1.22	.04	1.26
4 1/2" Rim Tools	1.60	.05	1.65
Screws, per box	.25	.007	.257
7/16" Nuts	.05	.002	.052
Rim Dowels	.13	.004	.134
Cam Buttons	.13	.004	.134

Consumers' Prices are net.

TYPE "E" SPLIT STRAIGHT SIDE



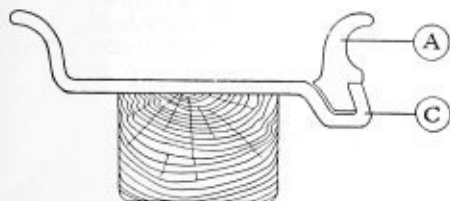
TYPE "F" CLINCHER FOR FORDS



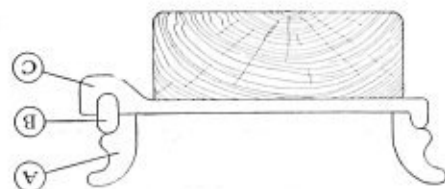
- A—Rim Base
D—Clamping Ring
E—Clamp
F—Clamp Bracket
G—Felloe Band
H—Back Washer

GOODYEAR RIMS

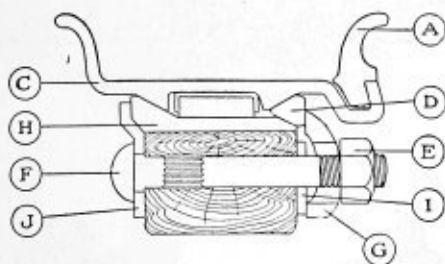
FOR PNEUMATIC TIRED TRUCKS



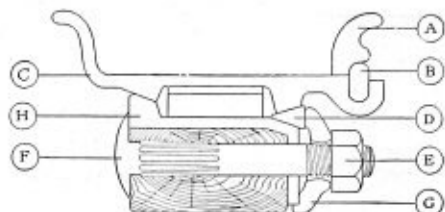
TYPE "A" DETACHABLE.



TYPE "E" DETACHABLE.



TYPE "A" DEMOUNTABLE.



TYPE "G" DEMOUNTABLE.

- A—Side Lock Ring. G—Wedge Clamp.
C—Rim Top. H—Felloe Band.
D—Wedge Ring. I—Plate.
E—Nut. J—Bolt Head Clip.
F—Bolt.

- A—Side Ring. E—Nut.
B—Lock Ring. F—Bolt.
C—Rim Top. G—Wedge Clamp.
D—Wedge Ring. H—Felloe Band.

DEMOUNTABLE.

List Price

32x4½	Type "A" demountable, 1 rim complete	\$ 8.75
32x4½	Type "A" demountable spare rim	5.45
34x4½	Type "A" demountable, 1 rim complete	9.05
34x4½	Type "A" demountable spare rim	5.65
34x5	Type "G" demountable, 1 rim complete	16.95
34x5	Type "G" demountable spare rim	10.45
36x6	Type "G" demountable, 1 rim complete	19.65
36x6	Type "G" demountable spare rim	12.06
38x7	Type "G" demountable, 1 rim complete	20.25
38x7	Type "G" demountable spare rim	12.20
40x8	Type "G" demountable, 1 rim complete	24.57
40x8	Type "G" demountable spare rim	16.35

DETACHABLE.

List Price

32x4½	Type "A" detachable, 1 rim complete	\$ 5.38
34x4½	Type "A" detachable, 1 rim complete	5.66
36x6	Type "E" detachable, 1 rim complete	12.24
38x7	Type "E" detachable, 1 rim complete	13.60
40x8	Type "E" detachable, 1 rim complete	17.58
32x4½	Type "A" detachable rim top	3.78
34x4½	Type "A" detachable rim top	3.96
36x6	Type "E" detachable rim top	5.64
38x7	Type "E" detachable rim top	8.00
40x8	Type "E" detachable rim top	10.38

PARTS PRICES

Part	Size	List Price
Demountable rim top Type "A"	32x4½	\$ 3.85
Demountable rim top Type "A"	34x4½	2.95
Demountable rim top Type "G"	34x5	7.35
Demountable rim top Type "G"	36x6	3.76
Demountable rim top Type "G"	38x7	8.90
Demountable rim top Type "G"	40x8	12.05
Side Rings	32x4½	1.60
Side Rings	34x4½	1.70
Side Rings	34x5	2.15
Side Rings	36x6, 38x7	2.30
Side Rings	40x8	2.90
Lock Rings	34x5	.95
Lock Rings	36x6, 38x7	1.00
Lock Rings	40x8	1.40
Wedge Rings	32x4½, 34x4½	.45
Wedge Rings	5", 6", 7", 8"	.55
Felloe Band	32x4½	1.55
Felloe Band	34x4½	1.65
Felloe Band	34x5	3.70
Felloe Band	36x6	3.95
Felloe Band	38x7	4.35
Felloe Band	40x8	4.95
Bolt	4½"	.08
Bolt	5", 6"	.12
Bolt	7", 8"	.15
Nut	4½"	.04
Nut	5", 6", 7", 8"	.06
Clamp	4½"	.10
Clamp	5", 6", 7", 8"	.15
Plates	4½"	.02
Bolt Head Clip	4½"	.02
Brace		.75

NOTE.—One rim complete consists of all detachable and demountable fastenings necessary for one wheel. A spare rim consists of parts forming the detachable feature.

TRICO RIM TIGHTENERS

For Demountable Rims.



Consists of a stamped steel shim for insertion under rim lugs on squeaky or worn rims. Takes up all wear. Stops all squeaks and holds rims securely. Heavily galvanized to prevent rusting. Packed in sets of 20 tighteners in box.

Trico Rim Tighteners, per set of 20.

List Price\$1.00

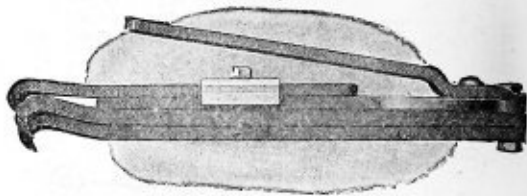
COUNTER DISPLAY CONTAINER



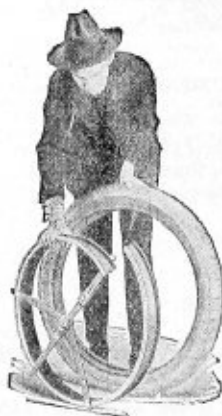
A neat display box containing 12 individual boxes of Trico Rim Tighteners, making a good showing on your counter. Included without extra charge on all orders of 12 boxes of Trico Rim Tighteners.

LAWCO RIM TOOL

For All Split Rims



Folds up in small compact space.

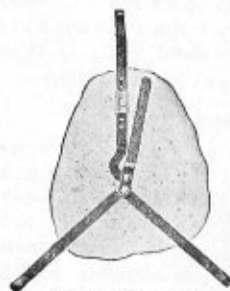


Removing Rim.



Rim Contracted.

The only Rim Tool made which operates with a three-point grip, therefore cannot possibly slip off the rim with painful results in the way of battered fingers to the operator. The tool is simplicity itself, consisting of three arms or claws (adjustable to any size split rim) and a lever arm which exerts a tremendous pull at the point where the rim is split, pulling the rim clear from the tire.



Adjustable for all size rims.

remove the rim in less time than any other rim remover.

Lawco Rim Tool. List Price, Each.....\$4.00

Raymond Demountable Rims

"The Easiest Operated Rim Made"

Raymond Demountable Rims are made to fit practically all cars and due to their unique construction do not require the use of cumbersome, temper-trying tools. While the Raymond Rim is entirely new, its operating principle—that of a permanently attached lever and fulcrum, has been in use from time immemorial.

Raymond Rims will Fit All the Following Cars:

American	S. S.
1917-19	S. S.
Briscoe	S. S. or Cl.
All Models	S. S. or Cl.
Buick	S. S.
1918-20	S. S.
Cash	S. S.
1918	S. S.
Chevrolet	S. S. or Cl.
All Models	S. S. or Cl.
Dodge	S. S.
1915-16	S. S.
Dort	Cl.
All Models	Cl.
Jeffery	S. S.
All Models	S. S.
King	S. S.
All Models	S. S.
Kissel	S. S.
1915-16	S. S.
Maxwell	Cl.
1919-20	Cl.
Oakland	S. S.
1918-20	S. S.
Olds	S. S.
1918-20	S. S.
Overland	S. S. or Cl.
1916-20	S. S. or Cl.
Patterson	S. S.
All Models	S. S.
Pullman	Cl.
1916-17	Cl.
Reo	S. S.
1915-20	S. S.
Saxon	S. S.
1915-19	S. S.
Scripps-Booth	S. S.
All Models	S. S.
Stephens	S. S.
All Models	S. S.
Willis-Knight	S. S.
All Models	S. S.
Cl.—Climber	S. S.—Straight Side.



Fig. 1.

To remove or attach tire, simply remove rim and tire from wheel and press the U-shaped lever, as shown in Fig. 1.



Fig. 2.

Figure 2 shows the detailed construction of the fulcrum and lever device which reduces the circumference of the rim, allowing the tire to be simply lifted from the rim. The lever automatically locks the rim in the collapsed position or in position for use by simply moving in desired position.

— LIST PRICES —

Raymond Demountable Clincher Rims

Size 30 x 3 1/2", applicable to Ford, Maxwell, Briscoe, Chevrolet, Dort and small Overland cars.

List Price, Each	\$ 3.40
Set of Five (rims only)	17.00

STRAIGHT SIDE RIMS

Size	List Price Each	Size	List Price Each
32 x 3 1/2"	\$5.70	33 x 4"	\$6.50
32 x 4"	6.00	34 x 4 1/2"	7.70

RIM PARTS

NAME	Symbol	List Price Each
Bolt, for 3 1/2" Rim	205	\$.15
Bolt, for 4" Rim	206	.15
Bolt, for 4 1/2" Rim	207	.15
Nut, for all bolts	301	.06
Wedge, for 3 1/2" Jaxon Rims	110	.25
Wedge, for No. 25 Perlman Rims	129	.25
Front Plate	403	.05
Lock Plate, State Size	81	.15
Swivel Plate	81	.15
Socket Wrench	02	.40
Split Rim Tool, Jaxon and Stanweld	700	1.20



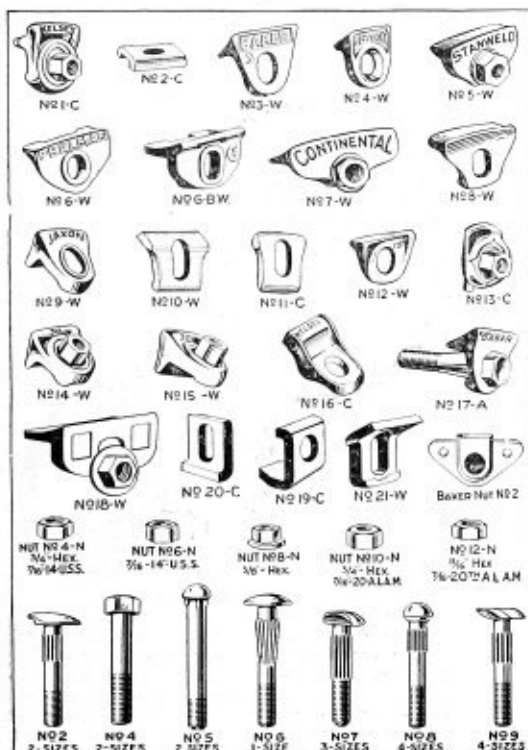
Fig. 3.

Figure 3 shows inflated tire on Raymond Rim ready for use.

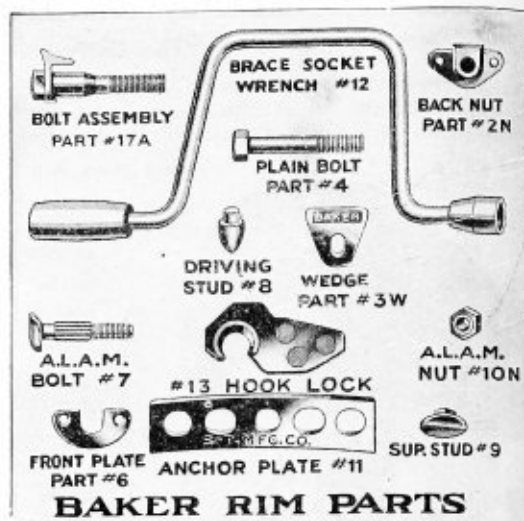
DEMOUNTABLE RIM PARTS

For All Makes of Rims

We carry in stock oversize clamps and wedges for use on rims that show wear and cannot use regular size wedges and clamps.



BAKER RIM PARTS



Front Plate, No. 6. List Price, Each.....\$.60
 Drive Stud, No. 8. List Price, Each.....\$.60
 Supporting Stud, No. 9. List Price, Each.....\$.60
 Hook Lock, List Price, Each.....\$.56

Parts for Stanweld Series Twenty Rims



RIM PARTS

Rim Used With	Size	CLAMP OR WEDGE		List Price	Bolt No.	List Price	Nut No.	List Price
		"Regular"	"Oversize"					
Kelsey No. 100.....	3 1/2" S. S.	1-C	1-C	\$.56	9-C	\$.15	10-N	\$.08
No. 30.....	4" S. S.	1-C	1-C	.56	9-D	.15	10-N	.08
No. 77.....	3 1/2" S. S.	15-W	15-BW	.56	9-B	.15	10-N	.08
No. 75.....	4" S. S.	15-W	15-BW	.56	9-C	.15	10-N	.08
Kelsey-Cadillac.....	3 1/2" S. S.	15-W	15-BW	.56	9-D	.15	10-N	.08
Baker No. 117.....	4 1/2" S. S.	16-C	3-W	.45	7-B	.15	10-N	.08
	3 1/2" S. S.	12-W	3-W	.28	9-A	.15	10-N	.08
	4 1/2" S. S.	13-C	3-W	.56	6-A	.17	8-N	.12
	3 1/2" S. S.	2-C	4-B	.18	4-B	.17	4-N	.08
	4 1/2" S. S.	2-C	4-C	.18	4-C	.17	4-N	.08
	3 1/2" S. S.	3-W	4-C	.20	4-C	.17	4-N	.08
Baker Regular.....	4 1/2" S. S.	3-W	6-BW	.28	4-B	.17	2-N	.20
	3 1/2" S. S.	3-W	6-BW	.28	4-C	.17	2-N	.20
	4 1/2" S. S.	3-W	6-BW	.28	4-C	.17	2-N	.20
Detroit.....	3 1/2" S. S.	4-W	3-W	.18	7-B	.15	10-N	.08
	4" S. S.	4-W	3-W	.18	7-C	.15	10-N	.08
	4 1/2" S. S.	4-W	3-W	.18	7-D	.15	10-N	.08
Stanweld.....	3 1/2" S. S.	5-W	5-BW	.28	7-B	.15	10-N	.08
	4" S. S.	5-W	5-BW	.28	7-C	.15	10-N	.08
	4 1/2" S. S.	5-W	5-BW	.28	7-D	.15	10-N	.08
Perlman-Jaxon.....	3 1/2" S. S.	6-W	6-BW	.28	7-B	.15	10-N	.08
	4" S. S.	6-W	6-BW	.28	7-C	.15	10-N	.08
	4 1/2" S. S.	6-W	6-BW	.28	7-D	.15	10-N	.08
Jaxon.....	3 1/2" S. S.	9-W	3-W	.28	7-B	.15	10-N	.08
	4 1/2" S. S.	9-W	3-W	.28	7-C	.15	10-N	.08
	4 1/2" S. S.	9-W	3-W	.28	7-D	.15	10-N	.08
Dodge 1918.....	3 1/2" S. S.	18-W	5-BW	.30	7-B	.15	10-N	.08
Goodrich.....	3 1/2" S. S.	19-C	5-A	.30	5-A	.15	12-N	.08
	4 1/2" S. S.	19-C	5-A	.30	5-B	.15	12-N	.08
	4 1/2" S. S.	19-C	5-C	.34	5-C	.15	12-N	.08
Parker.....	3 1/2" S. S.	20-C	2-B	.30	2-B	.24	4-N	.08
	4" S. S.	20-C	2-B	.30	2-B	.24	4-N	.08
Goodyear.....	3 1/2" S. S.	21-W	8-V	.19	8-V	.15	4-N	.08
	4" S. S.	21-W	8-D	.19	8-D	.15	4-N	.08
Firestone, Type E.....	3 1/2" S. S.	11-C	8-B	.19	8-B	.15	4-N	.08
	4" S. S.	11-C	8-C	.19	8-C	.15	4-N	.08
	4 1/2" S. S.	11-C	8-D	.19	8-D	.15	4-N	.08
Type C.....	3 1/2" S. S.	10-W	8-B	.19	8-B	.15	4-N	.08
	4" S. S.	10-W	8-C	.19	8-C	.15	4-N	.08
	4 1/2" S. S.	10-W	8-D	.19	8-D	.15	4-N	.08

RIM NUT SIZES

5/8" fits Kelsey, Ford, Jaxon; 11/16" fits Firestone, Goodrich, Fisk, demountable.
3/4" fits Baker, Buick, Continental, Detroit.
13/16" fits Stanweld No. 2 Universal.
7/8" fits Fisk, Goodyear.

MILLERS FALLS RIM WRENCHES

Nos. 910, 911, 912, 913, 914



The finest rim wrench made. Constructed of heavy steel with guaranteed unbreakable sockets. Wood handles mahogany stained, all

metal parts nickel plated. Knob and handle fitted with brass inserts and turned free with tool. Sweep 10".

No.	910	911	912	913	914
Size of Socket	5/8"	11/16"	3/4"	13/16"	7/8"
List Price, Each	\$2.00				

MILLERS FALLS RIM WRENCHES

Nos. 810, 811, 812, 813, 814



Very similar to No. 910 series Rim Wrenches but not quite so highly finished. Polished but not nickel plated. Handles

neat black enameled wood. Sweep 10".

Nos.	810	811	812	813	814
Size of Socket	5/8"	11/16"	3/4"	13/16"	7/8"
List Price, Each	\$1.25				

WALDEN RIM WRENCHES

Nos. 1420, 1422, 1424, 1426, 1428



An all steel socket type Rim Wrench with swivel handles made of pressed steel. A practical, quick-acting low priced Rim Wrench.

No.	1420	1422	1424	1426	1428
Size of Socket	5/8"	11/16"	3/4"	13/16"	7/8"
List Price, Each	\$1.00				

TEE HANDLE WRENCH

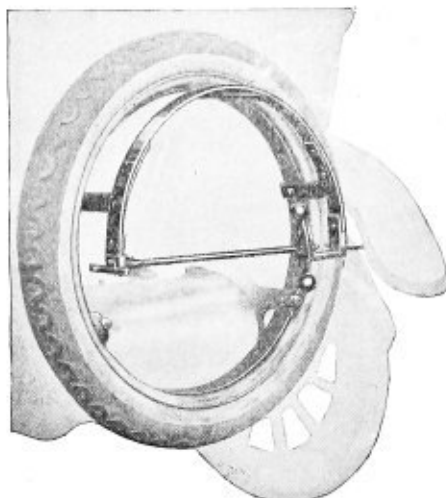
Nos. 1220, 1222, 1224



A practical very low priced wrench made with 10" handle and 4 3/8" Shank.

Nos.	1220	1222	1224
Socket Opening	5/8"	11/16"	3/4"
List Price, Each	\$5.00		

AMERICAN DEMOUNTABLE RIM CARRIER



For use with single tire carriers. Enable two extra demountable rims to be carried instead of one. Consists of a strong steel bracket which bolts to the single rim carrier by means of three bolts included with carrier. Will fit any car equipped with ring type demountable rim carrier for one rim. Made in four sizes to fit the following tire sizes.

No. 1 Fits 30 x 3 1/2, 31 x 4, 32 x 4 1/2, 33 x 5 Rims.

No. 2 Fits 32 x 4 and 33 x 4 1/2 Rims.

No. 3 Fits 32 x 3 1/2, 33 x 4, 34 x 4 1/2, and 35 x 5 Rims.

No. 4 Fits 34 x 4 and 35 x 4 1/2 Rims.

The American Tire Carrier will fit any model of the following cars which is equipped with circular ring carrier: Brisco, Buick, Chandler, Chevrolet, Elgin, Ford, Haynes, Hupmobile, Jordan, Liberty, Maxwell, Mitchell, Nash, Oakland, Overland, Oldsmobile, Paige, Reo, Saxon, etc.

In ordering specify make and size of Rim.

American Rim Carrier. List Price, Each \$12.00

MOSSBERG RIM WRENCHES



With drawn steel flat type swivel handle and indestructible steel sockets. Length

over all 14". Diameter 1 1/2".

Nos.	361	362	363	364	365
Socket Opening	41/64"	45/64"	49/64"	53/64"	57/64"
List Price, Each	\$1.10				

OUTSIDE DIAMETER OF EXHAUST PIPES

The List is Not Guaranteed Correct, but has been Compiled from the Latest Data Obtainable.

NAME	MODELS	1916	1917	1918	1919	1920
Abbott-Detroit	6-44	2 1/2"	2 1/2"	2 1/2"	2 3/8"	2 3/8"
Allen	4 Cyl. all Models	1 3/4"	1 3/4"	1 3/4"	1 3/4"	2"
American	Six	1 3/4"	1 3/4"	2 1/4"	2 1/4"	2 1/4"
Apperson	4-40, 6-45, 6-48, 8-58, 6	2 1/4"	2"	2"	2 1/4"	2 1/4"
Armleder	H-W	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Armleder	K-W	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Atterbury	7R and 7C	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Atterbury	7D and 8E	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Auburn	6-46, 4-40, 4-41, 6-40, 4-30, 6-47, 4-38	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Auburn	6-40-A, 6-38	2 1/4"	2"	2"	2"	2"
Autocar	21F, XXI, XXI-F	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Briscoe	All Models	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Buick	C-24, C-25, D-44, D-45, D-46, D-47, D-34, D-35	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Buick	C-54, C-55, D-54, D-55	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Buick	All Models	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Case	40 and U. All	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Cadillac	8 Cyl. Double Exhaust (1R and 1L)	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Chalmers	6-30, 6-40 Muffler must be moved	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Chalmers	6-48	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Chalmers	Master Six back 8 inches	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"
Chandler	35C Speedster, 5 and 7 Pass	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Chevrolet	All	2"	2"	2"	2"	2"
Chevrolet	Baby Grand, Royal Mail, H4F, B, T	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Chevrolet	490	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Chevrolet	D-4 and D-5	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Clydesdale	(Clyde Cars Co.) 32	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Clydesdale	65 and 90	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Clydesdale	120-B	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Cole	Serial 32626 and all since	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Cole	4 Cyl. 8-50, 6-66, All Models, 1918	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Cole	8-60	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Columbia	All	2"	2"	2"	2"	2 1/4"
Crawford	14-40, 14-30, 15-35, 16-40, 6-40, All	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Cleveland	All	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Comet	C-52 (1918) and C-53 (1919)	1 3/4"	1 3/4"	2"	2 1/4"	2 1/4"
Crow-Elkhart	C-30, C-33	1 3/4"	1 3/4"	2"	2 1/4"	2 1/4"
Crow-Elkhart	All	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Dunningham	8 Cyl. Y Double Exhaust and V-3	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"
Daniels	8 Cyl. A and B Double Exhaust	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Davis	H, 4 Cyl. 6-H, 6-L, 6-L, 6-N, 6-P	2"	2"	1 3/4"	1 3/4"	1 3/4"
Davis	J, 6 Cyl. M	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Day-Elder	A-B-D	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Day-Elder	C and F	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Day-Elder	E	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Detroit	B, C, F	2"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Detroit	6-45	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Dispatch	All	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Dodge	All	2"	2"	2"	2"	2"
Dorris	I, IA4, IA6, IB6, 1-2-6	3"	3"	3"	3"	3"
Dort	4, 5, 5, Westinghouse and 11, All	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Dort	Muffler must be moved back 6 inches	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Elcar	All	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Elcar	6 Cyl.	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Elgin	Left Hand	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Elgin	All	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Empire	31, 31-40, 33, 60, 70B, 73	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Empire	40, 45, 50	2"	2"	2"	2"	2"
Enger	12 Cyl.	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Essex	All	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Ford	All Special Outfit	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Franklin	M	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Franklin	All	2"	2"	2"	2"	2"
Franklin	All	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Glide	30, 6-40, Light 6-40	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Grant	All	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
H. A. L.	All	2"	2"	2"	2"	2"
Haynes	30-33, 34-35, 36-37, M-38, M-39, M-39-RD, 39 & 45	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Haynes	8 Cyl.	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Haynes	M-44, 40, 41-43, 44 and 46	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Holler	188	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Holler	186	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Holmes	1918 and 1919	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Hudson	6-40 Super Six, Speedster Super Six	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Hupmobile	K, KR, N, NR, NQ, NU, NV, R and RR	2"	2"	2"	2"	2"
Hurlburt	1 1/2 Ton	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Hurlburt	2 Ton, 3 1/2 Ton	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Hurlburt	5 Ton	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
International Harvester	F, H and K	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
International Harvester	G	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
International Harvester	L	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
International Motor	A B	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
International Motor	A C	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Interstate	T-4 Cyl. T	2"	2"	2"	2"	2"
Jackson	44, 34	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Jackson	348	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Jackson	349	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Jackson	46, 68	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Jeffrey	93, 96, 93-2, 104, 106, 462, 661, Quad	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Jordan	6-60, F	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
King	G	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
King	D, Serial No. 4001 to 5000 up	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
King	E, 8 Cyl. EE	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Kissell Kar	4 and 6 Cyl. Model 100, Point 6 and 6-42 and all Trucks	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
Kissell Kar	Double	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"
Kline Kar	All	2"	2"	2"	2"	2"
Lexington	All	2"	2"	2"	2"	2 1/4"

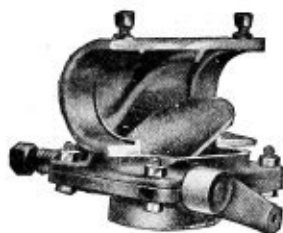
WHOLESALE DISTRIBUTORS

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OUTSIDE DIAMETER OF EXHAUST PIPES—Continued

NAME	MODEL S	1916	1917	1918	1919	1920
Liberty	10-B	2"	2"	2"	2"	2"
Locomobile	R-4, R-6, R-7, R-38	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Locomobile	M5, M6, M7, M18	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Lozier	Small 4 and 6	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Madison		2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Marion	H, K, A	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Marlboro		2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Marmon	A-34, 34, All	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Marmon	41	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Maxwell	All	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
McFarlan	Six, All	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
Mercer	All	3"	3"	3"	3"	3"
Metz	All	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Mitchell	All	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Moon	4-38, 6-40, 6-50, 6-44, 6-66	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Moon	6-30, 6-43, 6-45	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Moon	6-36 and Victory Model	2"	2"	2"	2"	2"
Nash	2018 and 3018	2"	2"	2"	2"	2"
Nash	681-687	2"	2"	2"	2"	2"
Nash	4017	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
National	Newport 6, Highway 6	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
National	Highway 12 (Double Exhaust)	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Norwalk	All, 4 Cyl.	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Norwalk	Light Six	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Oakland	32-6, 34, 36, 34-B	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Oakland	38-4, 36, 34-B	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Oakland	50-8	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Oldsmobile	42-43	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Oldsmobile	44 All	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Olympian	All	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Overland	80-81, 83, 85-4, 85-6, 88-8	2"	2"	2"	2"	2"
Overland	82-86, 88-6, 89	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Overland	75-90	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Overland	84, 88-4	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Overland	83 BOE	2"	2"	2"	2"	2"
Packard	Models 1916-17, Twin Six, Special for Double Exhaust Twin Six, All	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Paige	6-46, 6-40, 6-36, 6-38, 35, 25	2"	2"	2"	2"	2"
Paige	6-55	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Pathfinder	All	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Patterson	6-45, 6-47, All (with flexible tube)	2"	2"	2"	2"	2"
Peerless	5K-6, TC-4	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Peerless	56-8, 56	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Pierce-Arrow	All	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Pierce-Arrow	38 H. P.	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Pierce-Arrow	48 and 66 H. P.	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
Pilot	All	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Premier	6 Cyl.	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Pullman		1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Rainier	All	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Regal	E, J	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Reo	4 Cyl. 6 Cyl. 2-Ton Truck	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Roamer	All	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Rowe	2, 2 1/2 and 3 Ton	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Rowe	3 1/2 Ton	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Rowe	5 Ton	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Ross	8 (Double Exhaust)	2"	2"	2"	2"	2"
Saxon	All 4 Cyl. B 5-R	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Saxon	All 6 Cyl. All	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Scripps-Booth	All 6 Cyl. Models	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Scripps-Booth	C	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Scripps-Booth	D, Large 8 (Double Exhaust)	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Scripps-Booth	Small	2"	2"	2"	2"	2"
Singer	G	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Standard	All	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Stearns	8 Cyl. Two Cut-out, 1 Right, 1 Left, A	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Stearns	L-4 Cyl. SKL-4	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Stearns	8 Cyl. SK-S	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Stearns	6 Cyl.	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Stewart	6	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Stewart	7, 8, 9, 10	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Sterling	All	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Studebaker	All	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Stutz	All	3"	3"	3"	3"	3"
Stutz	16 Valve	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Stephens		2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Velle	All except 48	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Velle	48	2"	2"	2"	2"	2"
Wescott	0-35, 0-30, 41, A-38	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Wescott	U-50, 42, 51, 5-18, A-48	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
White	45, 40, 45, H. P.	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
White	30	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
White	40, GM, GMT, GMT-R	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
White	30 H. P.	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Wilcox	A, B, C, D, and W	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Winton	20, 21, 21A, 22A	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Winton	22, (4th Series)	3"	3"	3"	3"	3"

G-PIEL MUFLER CUT-OUT



G-P Muffler Cut-Out



G-P Muffler Cut Out

Illustration shows construction and working parts of this well known Cut-Out. Valve tongue and seat are so constructed that when Cut-Out is open the line to the muffler is completely shut off and the exhaust gases freely deflected without possibility of back pressure. The G-Piel Muffler Cut-Out is made in two parts thus enabling quick and thorough access to its interior. When the Cut-Out is closed pressure of the exhaust gases cannot open it. The course which ex-

haust gases must take tends to prevent carbon accumulation on the valve or its seat. Attached without flanges. The ends of all G-Piel Muffler Cut-Outs are bored to the exact size of the exhaust pipes with shoulders at each end. A set screw holds Cut-Out rigidly in position on exhaust pipe. Each G-Piel Muffler Cut-Out is packed separately in a substantial wooden box, making an attractive shelf or window display. Made for exhaust pipes of the following outside diameters.

Prices quoted are for Cut-Outs only without chain, pedal, pulleys, etc.

Size	List Price Each
1 1/4", 1 1/8", 1 1/2", 1 3/4", 1 3/8", 1 7/8"	\$4.50
2", 2 1/8", 2 1/4", 2 3/8", 2 1/2", 2 5/8"	5.00
2 3/4", 2 7/8", 3", 3 1/8", 3 1/4"	5.50
3" Stutz Special Cut-Out.	6.00
Special Piel Cut-Out Outfit for Ford Cars, consisting of one 1 1/2" Piel Cut-Out, Foot Pedal, and Chain for attaching.	4.50

GRAY-HAWLEY MUFLER CUT-OUT



A well known practical type of Muffler Cut-Out that has proven its value and utility. Valve is firmly held against an accurately ground seat by a strong torsion spring. The tension of this

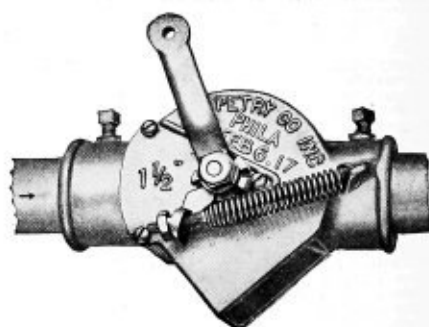
spring is so adjusted that valve automatically opens if explosions occur in Muffler, thus preventing blown-out mufflers and the accumulation of burned gases backing up and choking the motor. Accurately bored to clamp tightly over exhaust pipe without the use of packing.

Prices quoted are for Cut-Outs without chain, pedal, pulleys, etc.

Size	List Price Each
1 1/4", 1 1/8"	\$2.25
*1 1/2" (Ford size)	2.00
1 3/8", 1 3/4", 1 3/8", 2"	2.75
2 1/8", 2 1/4", 2 3/8", 2 1/2", 2 5/8", 2 3/4", 2 7/8", 3"	4.00

* Ford Outfit includes Cut-Out, Pedal, Pulley and chain.

PETRY CUT-OUT



A positive acting Cut-Out made with extra large sized vent that entirely eliminates all back pressure when closed. Tension spring instantly adjustable by tightening one small nut. Spring cannot lose its temper as it is located away from the heat. Ends of Cut-Out are carefully machined making a close fitting, noise-proof joint, without the use of packing. Set screws hold Cut-Out rigidly in position. Easily and quickly applied.

Size	List Price Each
*1 1/2", 1 1/8", 1 3/4", 1 3/8"	\$5.00
2", 2 1/8", 2 1/4", 2 3/8", 2 1/2", 2 5/8"	5.50
2 3/4", 2 7/8", 3", 3 1/4"	6.00

* Ford size outfit complete with pedal and chain.

G-PIEL CUT-OUT PEDAL

Made entirely of steel. Strong enough to operate any Cut-Out spring. By removing one screw it may be changed to operate in any desired direction. Especially useful where pedal must be placed in an awkward hard-to-reach position, as geared compound leverage makes it easy to operate. The locking device is on the bottom plate thus enabling the Pedal to be fastened to floor board of any thick-



G-P Pedal

ness without interfering with operation of Pedal. Cannot rattle. Requires less space for installation than any other type of pedal—Needs but one small round hole drilled in floor board.

G-Piel Pedal. List Price.....\$1.50

PETRY CUT-OUT PEDAL



An adjustable Cut-Out with a lever arm so arranged that it may be set in any desired position by means of shifting one small bolt as shown in illustration. A simple pressure of the foot locks or unlocks it. Finished in neat black enamel. Complete with bolts for attachment to floor board.

Petry Cut-Out Pedal. List Price, Each.....\$.75

GRAY-HAWLEY CUT-OUT PEDAL

Standard equipment on many cars. Push the button down and it automatically locks — touch the trigger catch and it instantly releases. All parts malleable castings. Easily and quickly installed by drilling one small hole in floor board. Parts showing above floor board finished in nickel or black.



Gray-Hawley Pedals, Nickel. List Price, Each.....\$1.00

Gray-Hawley Pedals, Black. List Price, Each..... .80

CUT-OUT PEDALS



No. 185



No. 180

Self locking. Made of high grade malleable iron. Strong enough to handle the heaviest tension. Finished in black enamel.

No. 185 Pedal. List Price.....\$.40

No. 180 Pedal. List Price..... .40

CABLE CHAIN

For Muffler Cut-Outs, Etc.

A high quality steel chain heavily coppered to prevent rusting. One size only. Weight 5 lbs. per 100 ft. Carried in 100 ft. spools.



Cable Chain. List Price, per 100 ft.....\$10.00

ACCELERATOR PEDALS



A practical easy working pedal that operates by sliding the foot forward on the pedal. Driver's foot always rests in a comfortable position. Carried in all-black finish, also black and nickel.

No. R 216 Accelerator Pedal, Black Finish.

List Price\$.75

No. R 215 Accelerator Pedal, Black and Nickel Finish. List Price.....\$.90

STEEL WIRE CABLE

For Muffler Cut-Outs, Etc.



Made of high quality braided wire 3/32 inches in diameter. Carried in 100 ft. spools. Weight 2 1/2 lbs. per 100 ft.

Steel Wire Cable, per 100 ft. List Price.....\$7.50

PULLEYS

For Muffler Cut-Outs, Etc.

Black enameled Pulley with V shaped roller preventing chain or cable from wedging and insuring easy operation.



Pulleys. List Price, Each.....\$.10

OPEN COIL SPRINGS



Used for compression instead of tension. Furnished in 12" lengths only, to be cut as desired.

No.	Gauge of Wire	Diam. Springs	Length	List Price Each
17	20	3/16"	12"	\$.03
18	19	1/4"	12"	.04
19	18	3/8"	12"	.05
20	17	5/8"	12"	.06

STEEL SPRINGS



Closed Coil Type

Best quality spring wire, black janned. Carried in the following sizes:

No.	Gauge of Wire	Diam. Springs	Length	List Price Each
1	17	$\frac{3}{8}$ "	10 $\frac{1}{2}$ "	\$.11
2	18	11/32"	8 $\frac{1}{4}$ "	.08
3	15	$\frac{1}{2}$ "	4 $\frac{1}{2}$ "	.07
4	18	$\frac{3}{8}$ "	1 $\frac{1}{2}$ "	.05
5	14	9/16"	5 $\frac{1}{2}$ "	.11
6	14	$\frac{3}{8}$ "	3"	.05
7	18	7/16"	6 $\frac{1}{4}$ "	.06
8	20	11/32"	6 $\frac{1}{2}$ "	.05
9	22	$\frac{1}{4}$ "	5 $\frac{3}{4}$ "	.05
10	22	11/64"	9"	.06
11	22	11/64"	7 $\frac{3}{4}$ "	.06
12	19	9/32"	5 $\frac{1}{2}$ "	.05
13	18	5/16"	5 $\frac{1}{2}$ "	.06
14	18	11/32"	5 $\frac{1}{2}$ "	.06
15	17	$\frac{3}{8}$ "	5 $\frac{1}{2}$ "	.06
16	16	7/16"	5 $\frac{1}{2}$ "	.08

* Sizes most commonly used for Muffler Cut-Outs, Foot Brakes, etc.

SPRING ASSORTMENTS



We carry in stock the following Assortments of coil springs for use on cut-out-pedals, brake rods, etc., also lighter weight

springs, for carburetors, check valves, etc.

ASSORTMENT No. 1. Consists of 24 springs, average length 6", diameters from $\frac{3}{8}$ " to $\frac{5}{8}$ ", for tension of from $\frac{1}{2}$ to 35 pounds. Principally used on cut-outs, brake rods, etc.

No. 1 Spring Assortment, 24 assorted size springs.

List Price, Each.....\$.60

ASSORTMENT No. 2. 100 Assorted size springs in the same sizes as No. 1 Assortment.

No. 2 Spring Assortment, 100 assorted size springs.

List Price, Each.....\$1.75

ASSORTMENT No. 3. 50 Assorted size springs for carburetor and check valves. These springs are much lighter in weight and tension than the other assortments and are of the coil type.

No. 3 Spring Assortment, 50 assorted coil springs.

List Price, Each.....\$1.00

MUSIC WIRE



Polished steel Music Wire in half pound rolls.

	List Price Per Roll
20 Gauge, Weight $\frac{1}{2}$ lb.	\$.80
18 Gauge, Weight $\frac{1}{2}$ lb.	.90
16 Gauge, Weight $\frac{1}{2}$ lb.	.90

AJAX WIRE ASSORTMENT

Counter Display



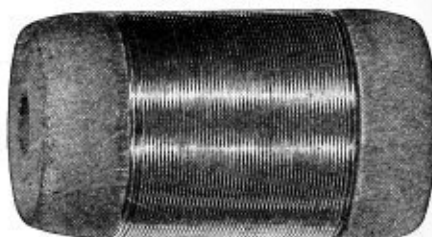
Consists of 72 spools of galvanized rust-proof steel wire in six sizes. Each spool is equipped with patented clip, preventing wire from unwinding from spool. Assortment is packed in neat hinged cover box and consists of the following:

Ajax Wire Assortment (with 72 Spools).

List Price\$12.00

Ajax Wire, Single Spools. List Price, Each..... .15

ANNEALED COPPER OR STEEL WIRE



Carried in stock on spools, each spool having 30 to 50 lineal feet of wire, depending on gauge. Carried in the following gauges—16, 18, 20 and 22.

Copper Wire. List Price, per spool.....\$.20

Steel Wire. List Price, per spool..... .10

FLEXIBLE STEEL TUBING



H.A.

Made of non-rusting galvanized steel with asbestos cord packing wound into the joints to insure absolutely tight joints. Used mainly for hot air lines to carburetors, etc. Carried in the following sizes:

Inside Diam.	List Price Per Ft.	Inside Diam.	List Price Per Ft.
$\frac{1}{2}$ "	\$.21	1 $\frac{3}{4}$ "	\$.72
$\frac{3}{4}$ "	.27	2"	.90
1"	.36	2 $\frac{1}{4}$ "	1.08
1 $\frac{1}{4}$ "	.45	2 $\frac{1}{2}$ "	1.26
1 $\frac{1}{2}$ "	.54		

SUNDERLAND GREASE GUN



A new type Grease Gun designed so that cap may be unscrewed from cylinder and dropped back on hinge permitting the Gun to be easily and quickly filled by shoving cylinder down into Grease Gun. Surplus grease is removed when piston is pushed into cylinder and Gun is ready for use after attaching cap in place. Equipped with screw for use with heavy grease or may be used as ordinary push type by a half turn of threaded nut. Equipped with flexible spout. Capacity 12 oz. Length 12 inches. Weight 3½ pounds.

Sunderland No. 1 Grease Gun. List Price, Each \$4.50

JUMBO GREASE AND OIL GUNS



Always a favorite. Made entirely of brass. Barrel 2 inches in diameter by 9¼ inches long. Capacity 15 oz. of grease. A thumb nut is provided enabling an instantaneous change from grease to oil. Comes with a 5 inch grease spout and is equipped with an oil nipple attachable in an instant. Plunger made of pressed cork, held in place by two steel washers, making it indestructible. Finished in polished brass.

Jumbo Grease and Oil Gun. List Price.....\$3.00

"B" LINE GREASE AND OIL GUNS



As shown in illustration complete with quick operating crank handle. Bayonet locking device makes it instantly convertible from the lightest oil to the heaviest grease. Barrel extra heavy seamless brass tubing with accurately machined brass plunger. Deep cut threads to prevent stripping. Each Gun equipped with two brass nozzles. Cannot rust, made entirely of brass. A fine high grade combination gun. Made in three sizes: 6, 9, and 12 oz. capacity.

No. 6 "B" Line Grease and Oil Gun. List Price \$4.00

No. 9 "B" Line Grease and Oil Gun. List Price 4.50

No. 12 "B" Line Grease and Oil Gun. List Price 5.00

SILVER GIANT GREASE AND OIL GUN



A powerful combination Gun that handles grease or oil with ease. Made of heavy seamless steel tubing with extra strong plunger accurately threaded. Leather washers very thick to withstand hardest wear. Operated by direct push or by screw—the change being made by tightening or loosening wing nut. Two nozzles provided, one for oil and one for grease. Finished in polished nickel plate.

Silver Giant Grease and Oil Gun.
List Price, Each.....\$3.50

TOWNSEND GREASE GUNS

Quick-acting, easy operating. The side wall slides around enabling the gun to be filled from the side without soiling the hands. Made with a strong screw and long crank handle for easy and rapid operation. Finished in polished brass plate.

Made in three sizes, 8, 12, and 16 oz. capacity.
No. 8 Townsend Grease Gun, 8 oz. size.
List Price\$5.25
No. 12 Townsend Grease Gun, 12 oz. size.
List Price6.00
No. 16 Townsend Grease Gun, 16 oz. size.
List Price7.50



GEM GREASE AND OIL GUN



Smaller in size than the Jumbo but very similar in construction. Steel barrel with brass grease spout and oil nipple. Diameter of barrel 1¾ inch by 7 inches long. Capacity 8 oz. of grease. Hand-somely finished in polished brass plate.

Gem Grease and Oil Gun. List Price.....\$2.00

NOERA GREASE AND OIL GUN

No. 1210



A powerful, quick-acting, grease and oil gun handling the heaviest grease or

the lightest oil with equal facility. Made of heavy brass tubing 1¾ inches in diameter and 8½ inches long with lathe turned cork plunger. Equipped with large spout for grease and smaller bent spout for oil, also plug to prevent leakage in tool box. Packed separately in sliding top wooden box.

Noera Grease and Oil Gun. No. 1210. List Price \$2.50

NOERA GREASE AND OIL GUN

No. 444



A serviceable low-priced combination gun furnished with two spouts, one for grease and one for oil. The end of this gun is threaded to fit transmission case, making it valuable to the Ford owner. Made of steel 1¼ inches in diameter by 8 inches long. Finished in heavy brass plate.

Noera Grease and Oil Gun, No. 444. List Price \$.75

ROSE GREASE GUN

A strong Grease Gun especially designed for carrying in the tool box. Length 12½ inches; diameter 1¼ inches. Made of seamless steel tubing, neatly enameled black with extra heavy washers. Handles either light or heavy grease.
Rose Grease Gun. List Price, Each.....\$2.00



ROSE AUTO GREASE GUN

COPPERIZED STEEL OILERS



Made from heavy gauge steel with large mouth copper plated, with clock spring steel bottoms. Spouts are interchangeable.

No. 13 Oiler—Capacity $\frac{1}{2}$ pt.; diameter, $3\frac{3}{4}$ " ; 3" spout.
List Price, Each.....\$.35

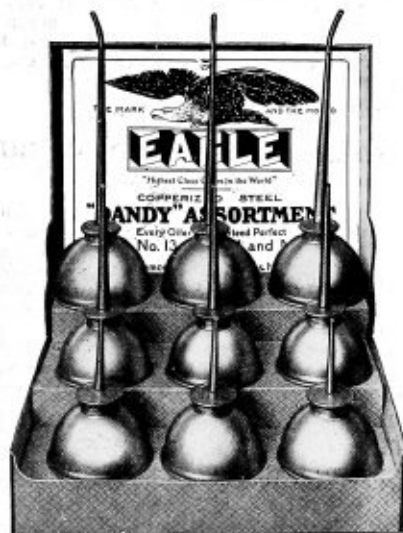
No. 13A Oiler—Capacity, $\frac{1}{2}$ pt.; diameter, $3\frac{3}{4}$ " ; 5" spout.
List Price, Each.....\$.40

No. 14 Oiler—Capacity, $\frac{1}{2}$ pt.; diameter, $3\frac{3}{4}$ " ; 9" spout.
List Price, Each.....\$.45

No. 14A Oiler—Capacity, $\frac{1}{2}$ pt.; diameter, $3\frac{3}{4}$ " ; 3" spout.
List Price, Each.....\$.50

No. 14AA Oiler—Capacity, $\frac{1}{2}$ pt.; diameter, $3\frac{3}{4}$ " ; 5" spout. List Price, Each.....\$.55

EAGLE OILER ASSORTMENT



Consists of one dozen heavy copper plated steel oilers in the four most popular sizes. With this assortment a handsome counter display carton is furnished, enabling nine oilers to be attractively displayed. Eagle Oilers are equipped with spring steel bottoms. Spouts are interchangeable.

Assortment includes—

- $\frac{1}{4}$ Dozen No. 13 Copperized Steel Oilers, capacity $\frac{1}{2}$ pt., with 3" straight spout.
- $\frac{1}{4}$ Dozen No. 13A Copperized Steel Oilers, capacity $\frac{1}{2}$ pt., with 5" straight spout.
- $\frac{1}{4}$ Dozen No. 14 Copperized Steel Oilers, capacity $\frac{1}{2}$ pt., with 9" bent spout.
- $\frac{1}{4}$ Dozen No. 14-A Copperized Steel Oilers, capacity $\frac{1}{2}$ pt., with 3" bent spout.

Eagle Oiler Assortment, complete with 12 Oilers and Counter Display Case. List Price.....\$3.75

AUTO PUMP OILERS



Body made from seamless drawn steel with brass connections and cut thread. Spout adjustable to any position. Operates by pressing plunger.

No. 800—Capacity, $\frac{1}{2}$ pt.; diameter, $3\frac{3}{4}$ " . Nozzle, 3". List Price, Each.....\$2.10

No. 801—Capacity, $\frac{1}{2}$ pt.; diameter, $3\frac{3}{4}$ " . Nozzle, 5". List Price, Each.....\$ 2.15

No. 802—Capacity, $\frac{1}{2}$ pt.; diameter, $3\frac{3}{4}$ " . Nozzle, 9". List Price, Each.....\$ 2.20

No. 803—Capacity, 1 pt.; diameter, $4\frac{1}{4}$ " . Nozzle, 5". List Price, Each.....\$ 2.30

OIL CAN HOLDER



Adjustable for carrying any ordinary size oil can. Usually placed on dash beneath hook. Spring holds can securely. Black japanned or copperized finish.

Oil Can Holder. List Price, Each.....\$.25

EMPRESS, BRASS

Invisible Ratchet
GREASE CUPS

No. 233

An attractive cup of good design, recommended for use where appearance is to be increased. Cap cannot be lost through vibration. Dust-proof.



List Prices

Number	000	00	0
Inside Diameter	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "
Regular Pipe Thread	$\frac{1}{8}$ "	$\frac{1}{8}$ "	$\frac{1}{4}$ "
Capacity (Grease), oz.	$\frac{3}{16}$	$\frac{5}{16}$	$\frac{1}{2}$
Nickel Plated, Each	\$.92	\$1.05	\$1.30
Polished Brass, Each	.82	.95	1.13

RATCHET GREASE CUPS
Steel

Cannot jar loose from vibration.

No.	000	00	0
Pipe Thread	$\frac{1}{8}$ " or $\frac{1}{4}$ "	$\frac{1}{8}$ "	$\frac{1}{4}$ " or $\frac{1}{2}$ "
Grease Cap, oz.	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$
List Price, Ea.	\$.15	\$.20	\$.25



"T" HANDLE GREASE CUPS

Brass

Made with leather washer between washers. Principally used on spindle bolts, etc.

No.	Thread	Capacity	List Price, Each	
			Brass	Nickel Plated
101	1/8"	1/4 oz.	\$.30	\$.33
102	5/16" x 32"	1/4 oz.	.30	.33
104	1/8"	1/2 oz.	.48	.54
110	1/8"	1 oz.	.69	.75

"T" HANDLE GREASE CUPS

No. 105—Brass



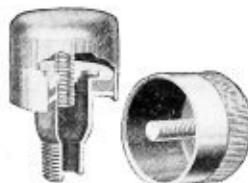
Similar in external appearance to Nos. 101, 102, etc., but so constructed that the handle and stem do not rise but remain in one position—the leather plunger moving up and down inside of cup, eliminating the possibility of breaking off handle.

No. 105 Grease Cup, 1/8" pipe thread, 1/2 oz. capacity, nickel plated. List Price, Each.....\$.75

GARRISON GREASE CUPS

With Center Thread

The only Grease Cup which cannot cross thread. Easily filled, will not leak, indestructible, standard thread. Equipped with leather washer, reinforced with steel washer—the screw plate, provided with four holes through which grease is forced into the base, preventing emptying base when cap is removed. Finished polished steel.



No.	Pipe Thread	Capacity	List Price, Each	
000	1/8"	1/4 oz.	\$.18	
00	1/8"	1/2 oz.	.22	
0	1/4" or 1/8"	3/4 oz.	.27	

EMPRESS STYLE N BRASS OIL CUPS



No. 53
Standard
Type

Standard and Self-Closing Types



No. 70
Self-Closing
Type

These Cups may also be used in horizontal or oblique positions. No. 70 is self-closing, both dust-proof.

No.	Stock Thread	Optional Pipe Thread	Diameter of Cap	List Price, Each	
0	No. 10-32V		5/16"	\$.18	\$.19
1	1/4"-32V		3/8"	.19	.20
3	3/8"-24V		1/2"	.22	.23
4	7/16"-24V		9/16"	.28	.30
5	1/2"-24V		5/8"	.48	.51

HINGED-LID OILERS



Style "C"

Made of steel, nickel plated over copper plate or natural finish.



Style "Y"

Style "C"

No.	Body Diam.	Pipe Threads	List Price, Each	
			Nickel Plated	Nat. Finish
1-C	5/8"	1/8"	\$.28	\$.25
2-C	3/4"	1/8"	.32	.29
3-C	1"	1/8"	.42	.37
4-C	1 1/4"	1/4"	.52	.48
5-C	1 5/8"	3/8"	.67	.61

Style "Y"

No.	Body Diam.	Pipe Threads	List Price, Each	
			Nickel Plated	Nat. Finish
1-Y	5/8"	1/8"	\$.36	\$.33
2-Y	3/4"	1/8"	.41	.38
3-Y	1"	1/8"	.50	.45
4-Y	1 1/4"	1/4"	.61	.55
5-Y	1 5/8"	3/8"	.75	.66

EMPRESS STYLE D BRASS OIL CUPS

No. 52

Positively self-closing and dust-proof. Cap is operated with oil can spout.



No.	Stock Thread	Optional Thread	Diam. of Hex.	Diam. of Cap	List Price, Each	
					Brass	Nickel
1	1/4"-32V		5/16"	11/32"	\$.19	\$.20
2	5/16"-32V	1/4"-32V	3/8"	13/32"	.20	.22
3	3/8"-24V	5/16"-18V	7/16"	1 1/2"	.22	.24
4	7/16"-24V	3/8"-16V	1 1/2"	9/16"	.28	.30
5	1/2"-24V	1/2"-14" Pipe	1 5/8"	11/16"	.48	.51

SPRING SHACKLE BOLTS

With grease or oil cup. Accurately made from best steel, hardened and ground. Drilled for oil or grease canal and drilled for cotter pin. Made in 7/16", 1/2", 9/16", 5/8", and 3/4" diameter, in all lengths. Complete with castellated nuts.

SPRING SHACKLE BOLT WITH GREASE CUP

No. 112

Fitted with grease cup with locking device, preventing loss of cap due to vibration.

No. 112 Steel Grease Cup Shackle Bolt—

Diameter	Length	List Price, Each
7/16"	2 1/4 to 4"	\$.80
1/2"	2 1/2 to 4 1/2"	.85
9/16"	2 3/4 to 4 1/2"	.90
5/8"	3 to 5"	1.00
3/4"	3 1/2 to 5 3/4"	1.25

SPRING SHACKLE BOLT WITH OIL CUP

No. 113



More cars are coming through every day equipped with oil-lubricated Shackle Bolts.

No. 113 is equipped with hinged lid, nickel plated brass oil cup, as shown in illustration.

No. 113 Nickel Plated Brass Oil Cup Shackle Bolt—

Diameter	Length	List Price, Each
7/16"	2 1/4 to 4"	\$.70
1/2"	2 1/2 to 4 1/2"	.80
9/16"	2 3/4 to 4 1/2"	.95
5/8"	3 to 5"	1.10
3/4"	3 1/2 to 5 3/4"	1.35

FELIX OIL CUPS

A new type Oil Cup with combined pressure and automatic feed. Automatically feeds sufficient oil for lubrication of spring shackle bolts, etc., and requires filling but once a month. Operated by simply pressing slightly on cap which forces oil through bearings under 250 lbs. pressure. Cannot cross thread—no Cover to unscrew and fall in dirt. Finished in polished nickel plate and made with standard 1/8" or 1/4" pipe thread connection fitting 75% of all cars. Elbow Adaptors to fit 1/8" or 1/4" pipe thread furnished at slight additional cost.

Felix Grease Cup, List Price, Each.....\$1.00
Adaptors for 1/8" or 1/4" pipe thread,

List Price, Each......15

NOTE:—In ordering Adaptors specify whether 1/8" or 1/4" pipe thread is desired.

WE CAN'T HELP IT!

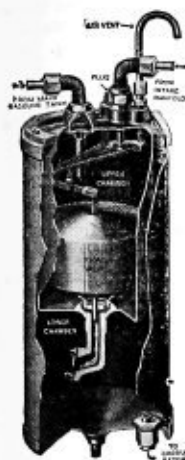
Prices are Changing
Daily, Manufacturers
Withdrawing All Quo-
tations,

Therefore,
When you Receive
This Catalog,

MANY LIST PRICES
WILL BE
INCORRECT

But
OUR PRICES ARE
ALWAYS THE LOW-
EST, CONSISTENT
WITH HIGH GRADE
MERCHANDISE

Stewart Vacuum Tank System



Standard equipment on 95% of the modern cars and trucks. Entirely eliminates all gasoline feed troubles, as it feeds gas to the carburetor automatically and evenly under every possible condition. Trouble-proof—never requires any attention after installation.

The Stewart Vacuum System consists of a small tank installed under hood and connected with intake manifold, carburetor and gasoline reservoir. The intake strokes of the motor create a vacuum in the upper chamber of the tank which draws gasoline from supply tank at rear or any other convenient place. As gasoline flows into upper chamber it raises a float which automatically shuts off the vacuum valve when a certain height

of gasoline has flowed in, and opens an atmospheric valve, allowing gasoline to flow into the lowest chamber. The float drops with gasoline when it reaches the required point, and in turn reopens vacuum valve, thus keeping an even quantity of gasoline in the vacuum tank.

Stewart Vacuum Tanks are made in four sizes to fill the requirements of all cars or trucks.

COMPLETE WITH ALL FITTINGS READY FOR INSTALLATION

- No. 122. Small Size, for all small cars, such as Maxwell, Chevrolet, Ford, etc. List Price...\$13.50
 No. 113. Medium Size, for such cars as Buick, Dodge, etc. List Price... 13.50
 No. 127. Large Size, for large, high-powered cars, such as Peerless, Pierce, Standard, Winton, etc. List Price... 15.00
 Truck Size, intended for extra large trucks with large fuel consumption. List Price... 18.00
 NOTE.—In ordering Vacuum Tanks specify year, model and make of car to insure receiving the right size.

PARTS



With the Exception of Parts for Model 146

In ordering, be sure to specify part number in order to avoid error.

Part No.	Name of Part	Model No.	List Price
694	Outside Shell Assembly—127-A-B		\$2.00
1138	Outside Shell Assembly—127-D		2.00
1244	Outside Shell Assembly—127-D-E		2.00
1464	Float Lever,	All Models.	.25
1473	Spring Lever,	"	.25
1474	Valve Stem Lever,	"	.25
1475	Valve Connecting Link,	"	doz. 1.50
1478	Vacuum Valve Stem,	"	.25
1480	Pipe Plug,	"	doz. 1.25
1481	Atmospheric Stem,	"	.25
1483	Valve Stem Sleeve,	"	doz. 1.25
1484	Valve Stem Nut,	"	doz. .60
1485	Valve Tension Spring,	"	.25
2590	Standard Tube Connection—122-B		.30
2445	1/4-20 Hexagon Jamb Nut—116-A-B-C-D-E-F-H; 122-D-E		doz. .25
2482	Outside Shell Assembly—127-B		2.00
2762	Vacuum Check Valve—113-A-B-F-G-K-P; 116-A-B-F-H; 122-D-E; 127-A-B		.30
2763	Reservoir Outlet Bushing—127-D		.35
2764	Reservoir Outlet Bushing—113-A-B-F-G-H-J-K-L-P-R-S; 122-A-B-D-E; 127-A-B		.35
2807	Bracket Screw Nuts—113-A-B-C-F-G-J-K-L-P-R-S; 127-A-B-C-D		100 1.00

2808	Vacuum Valve Nipple—122-A; 127-C	.30
2815	Lavigne Solderless Coupling—113-A-F-H-K; 116-A; 127-A	.30
2816	Lavigne Solderless Coupling Elbow—113-A-F-H-K; 116-A; 127-A	.30
2817	6 feet 5/16" Brass Tubing—113-A-F-H-K; 116-A; 127-A	p. fl. .25
2984	Outside Shell Assembly—122-A-B	2.00
3399	Vacuum Valve Nipple—113-J; 116-E	.30
3416	Outside Shell Assembly—113-G-K	2.00
3416	Float Assembly—All Models	1.80
3477	Gasoline Strainer Assembly—Models 116-122-113-127, except 113-C and 122-A-B	.30
3483	Outside Shell Assembly—113-C	1.75
3548	Lavigne Elbow Coupling—113-F	.30
3674	Gasoline Strainer Assembly—113-C	.30
3685	Top Cover Assembly—122-A-B	2.00
3686	Top Cover Assembly—All Models, except 122	2.00
3694	Drain Pet Cock—113-C-F-G-H-J-K; 127-C-D; 113-S	.45
3779	Band Bracket—113-A-B-C-F-G-J-K-L-S	.30
3830	Cover Gasket—All Models	doz. 1.50
3912	Top Cover and Float Assembly	5.00
3913	Flapper Valve Assembly—All Models	1.25
3973	Gasoline Strainer Assembly—122-A-B	.75
3981	Gasoline Connection Nipple—127-C	.75
4471	Band Bracket—116-A-B-C-D-E-F-H; 122-D-E	.30
4473	Bracket Clamp Screws—116-A-B-D-E-F-H; 122-D-E	doz. .75
4975	Outside Shell Assembly—113-A-B-F-H-J-L-P-R	2.00
6185	Outside Shell Assembly—116-A-B-C-D-E-F-H; 122-D-E	2.00
6336	Vacuum Valve Nipple—113-H	.30
6383	Vent Tube Extension—113-A-B-C-G-H-J-K-L-P-R-S; 116-A-B-E-H; 122-D-E	.30
6384	Vent Tube Extension Connection—113-A-B-C-G-H-J-K-L-P-R-S; 116-A-B-E-H; 122-A-B; 127-A-B; 122-D-E	.30
6835	1/4" Lavigne Solderless Coupling—116-C	.30
7003	Fl. Head Bracket Screws—113-A-B-C-F-G-J-K-P-R-S; 127-A-B-C-D	doz. .75
7308	Vacuum Valve Nipple—113-C	.30
7319	Fibre Float Stem Guide—All Models	doz. 1.50
7392	Vacuum Elbow Connection—113-L	.35
7422	Band Bracket—127-A-B-C-D	.35
7470	Band Bracket—113-P	.30
7485	Inner Shell Assembly—All Models	1.25
7741	Vent Tube Extension—127-A-B-C	.30
7799	Band Bracket—Model 113-K	.30
9901	Fibre Float Stem Guide—All Models	doz. 1.50
10263	Drain Pet Cock—113-C-F-G-H-J-K; 127-C-D; 113-S	.45
10870	Flapper Valve Assembly—All Models	1.25

PITTSBURGH AUTO EQUIPMENT CO. PIPE FITTINGS

DOUBLE MALE ELBOWS

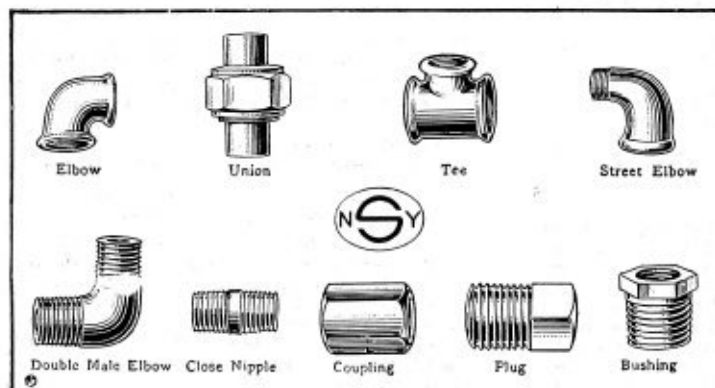
No.	Pipe Thread	List Price Each
52	$\frac{1}{8}$ "	\$.15

CLOSE NIPPLES

No.	Pipe Thread	List Price Each
55	$\frac{1}{8}$ "	\$.16
56	$\frac{1}{4}$ "	.21
57	$\frac{3}{8}$ "	.28

COUPLINGS

No.	Pipe Thread	List Price Each
58	$\frac{1}{8}$ "	\$.21
59	$\frac{1}{4}$ "	.28
60	$\frac{3}{8}$ "	.48



Made of heaviest brass, rough finished, with accurately cut threads. Packed 24 of one size and style in box.

ELBOWS

No.	Pipe Thread	List Price Each
40	$\frac{1}{8}$ "	\$.15
41	$\frac{1}{4}$ "	.21
42	$\frac{3}{8}$ "	.24

UNIONS—Polished

No.	Pipe Thread	List Price Each
43	$\frac{1}{8}$ "	\$.46
44	$\frac{1}{4}$ "	.60
45	$\frac{3}{8}$ "	.85

TEES

No.	Pipe Thread	List Price Each
46	$\frac{1}{8}$ " x $\frac{1}{8}$ " x $\frac{1}{8}$ "	\$.21
47	$\frac{1}{4}$ " x $\frac{1}{4}$ " x $\frac{1}{4}$ "	.27
48	$\frac{3}{8}$ " x $\frac{3}{8}$ " x $\frac{3}{8}$ "	.37

STREET ELBOWS

No.	Pipe Thread	List Price Each
49	$\frac{1}{8}$ "	\$.15
50	$\frac{1}{4}$ "	.21

PLUGS

No.	Pipe Thread	List Price Each
61	$\frac{1}{8}$ "	\$.06½
62	$\frac{1}{4}$ "	.09
63	$\frac{3}{8}$ "	.12

BUSHINGS

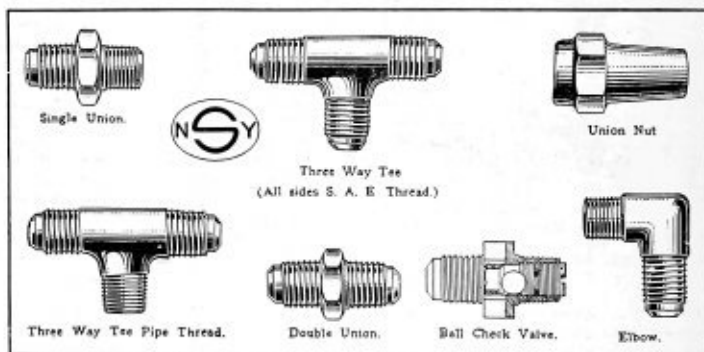
No.	Pipe Thread	List Price Each
64	$\frac{1}{8}$ " x $\frac{1}{4}$ "	\$.12
65	$\frac{1}{4}$ " x $\frac{3}{8}$ "	.15
66	$\frac{1}{8}$ " x $\frac{3}{8}$ "	.18

S. A. E. FLARED TUBE FITTINGS

Made of brass, carefully machined; rough finish. Packed 25 of one size in box. Principally used on gasoline and oil lines, etc.

UNION NUTS

No.	Tube Size	Tapped S.A.E.	List Price Each
65	$\frac{1}{4}$ "	$\frac{1}{4}$ " x 20"	\$.14
66	$\frac{5}{16}$ "	$\frac{1}{2}$ " x 20"	.16
67	$\frac{3}{8}$ "	$\frac{5}{8}$ " x 18"	.21



SINGLE UNIONS

No.	Tube Size	I. P. Thread	S. A. E. Thread	List Price Each
68	$\frac{1}{4}$ "	$\frac{1}{8}$ "	$\frac{1}{4}$ " x 20"	\$.16
69	$\frac{5}{16}$ "	$\frac{1}{8}$ "	$\frac{1}{2}$ " x 20"	.18
70	$\frac{3}{8}$ "	$\frac{1}{4}$ "	$\frac{5}{8}$ " x 18"	.25

DOUBLE UNIONS

No.	Tube Size	S. A. E. Thread	List Price Each
71	$\frac{1}{4}$ "	$\frac{1}{8}$ " x 20"	\$.18
72	$\frac{5}{16}$ "	$\frac{1}{2}$ " x 20"	.22
73	$\frac{3}{8}$ "	$\frac{5}{8}$ " x 18"	.29

BALL CHECK VALVES

No.	Tube Size	I. P. Thread	S. A. E. Thread	List Price Each
74	$\frac{1}{4}$ "	$\frac{1}{8}$ "	$\frac{1}{4}$ " x 20"	\$.41
75	$\frac{5}{16}$ "	$\frac{1}{8}$ "	$\frac{1}{2}$ " x 20"	.46
76	$\frac{3}{8}$ "	$\frac{1}{4}$ "	$\frac{5}{8}$ " x 18"	.60

ELBOWS

No.	Tube Size	I. P. Thread	S. A. E. Thread	List Price Each
77	$\frac{1}{4}$ "	$\frac{1}{8}$ "	$\frac{1}{4}$ " x 20"	\$.18
78	$\frac{5}{16}$ "	$\frac{1}{8}$ "	$\frac{1}{2}$ " x 20"	.21
79	$\frac{3}{8}$ "	$\frac{1}{4}$ "	$\frac{5}{8}$ " x 18"	.27

THREE-WAY TEES

No.	Tube Size	I. P. Thread	S. A. E. Thread	List Price Each
80	$\frac{1}{4}$ "	$\frac{1}{8}$ "	$\frac{1}{4}$ " x 20"	\$.27
81	$\frac{5}{16}$ "	$\frac{1}{8}$ "	$\frac{1}{2}$ " x 20"	.27
82	$\frac{3}{8}$ "	$\frac{1}{4}$ "	$\frac{5}{8}$ " x 18"	.40

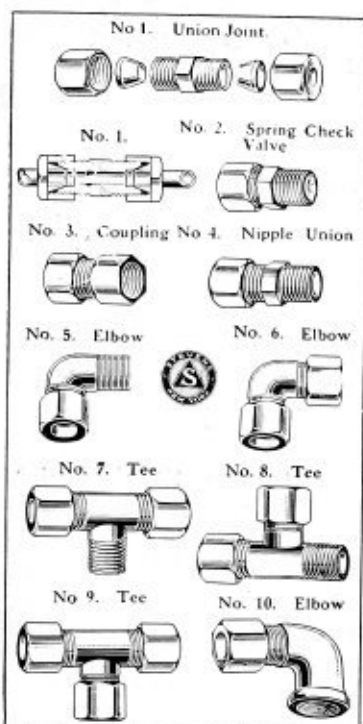
THREE-WAY TEES

No.	Tube Size	S. A. E. Thread	List Price Each
83	$\frac{1}{4}$ "	$\frac{1}{4}$ " x 20"	\$.29
84	$\frac{5}{16}$ "	$\frac{1}{2}$ " x 20"	.34
85	$\frac{3}{8}$ "	$\frac{5}{8}$ " x 18"	.48

SOLDERLESS COMPRESSION COUPLINGS

No. 111F ASSORTMENT SOLDERLESS COMPRESSION COUPLINGS

For the Repair Shop



Consists of 112 complete Compression Couplings including every shape or style in $\frac{1}{4}$ " and $\frac{3}{8}$ " sizes. Compression Couplings are being used more every day as they eliminate the use of solder and save time and labor. Assortment is packed in neat

hardwood, hinged cover, box with locking device. Size $17" \times 9\frac{1}{2}" \times 2"$ with chart showing the various shapes and made with partitions for the different items. Assortment consists of the following:

Compression Couplings

12 $\frac{1}{4}"$ Sleeve	3 $\frac{1}{4}"$ Elbows	6 $\frac{1}{4}"$ Elbows
12 $\frac{3}{8}"$ Sleeve	3 $\frac{3}{8}"$ Elbows	6 $\frac{3}{8}"$ Elbows
6 $\frac{1}{4}"$ Unions	6 $\frac{1}{4}"$ Bushings	6 $\frac{1}{4}"$ Elbows
6 $\frac{3}{8}"$ Unions	6 $\frac{3}{8}"$ Bushings	6 $\frac{3}{8}"$ Tlows
6 $\frac{1}{4}"$ Tees	8 $\frac{1}{4}"$ Connectors	3 $\frac{1}{4}"$ Tees
6 $\frac{3}{8}"$ Tees	6 $\frac{3}{8}"$ Connectors	3 $\frac{3}{8}"$ Tees

No. 111-F Assortment Compression Couplings

Complete. List Price.....\$18.50

"GARAGE ASSORTMENT" SOLDERLESS COUPLINGS, BRASS FITTINGS, COCKS AND PRIMING CUPS 155 Pieces



A complete Assortment consisting of Solderless Compression Couplings, Drain Cocks, Priming Cups and other Brass Fittings used about an automobile. With this Assortment a neat hardwood cabinet $20\frac{1}{4}"$ long by $2\frac{1}{2}"$ high by $7\frac{1}{4}"$ wide is furnished. Cabinet is divided into 29 separate compartments with chart illustrating the different parts. Fitted with hinged lid and locking device. The ideal way to handle fittings in the garage or supply store.

Assortment includes the following:

Solderless Couplings	Pipe Fittings, Etc.
5 $\frac{1}{4}"$ Union Joints	5 $\frac{1}{4}"$ P. T. Brass Plugs
5 Couplings, $\frac{1}{4}"$	5 $\frac{1}{4}"$ P. T. Ells
7 Nipple Unions, $\frac{1}{4}"$	5 $\frac{1}{4}" \times \frac{1}{4}"$ P. T. Bushings
5 Elbows, $\frac{1}{4}"$	5 $\frac{1}{4}"$ P. T. Street Ells
3 Tees, $\frac{1}{4}"$	5 $\frac{1}{4}"$ P. T. Brass Plugs
3 Elbows, $\frac{1}{4}"$	5 $\frac{1}{4}"$ P. T. Couplings
10 Sleeves, $\frac{1}{4}"$	5 $\frac{1}{4}"$ P. T. Close Nipples
10 Nuts, $\frac{1}{4}"$	7 $\frac{1}{8}"$ P. T. Long Shank
5 Union Joints, $\frac{3}{8}"$	Priming Cups
5 Couplings, $\frac{3}{8}"$	3 $\frac{1}{8}"$ P. T. Angle Priming
5 Nipple Unions, $\frac{3}{8}"$	Cups
5 Elbows, $\frac{3}{8}"$	5 $\frac{1}{4}"$ P. T. Air Cocks
3 Tees, $\frac{3}{8}"$	5 $\frac{1}{4}"$ P. T. Drain Cocks
3 Elbows, $\frac{3}{8}"$	
10 Sleeves, $\frac{3}{8}"$	
10 Nuts, $\frac{3}{8}"$	

Garage Assortment Solderless Couplings, Etc.

List Price.....\$32.50

LIST PRICE, EACH.....	$\frac{1}{4}"$	$\frac{3}{8}"$	$\frac{1}{2}"$
No. 1 Union Joint, both ends fitted with sleeve and nut for joining two tubes.....	.18	.21	.30
No. 2 Spring Check Valve, compression one end, pipe thread on other end.....	.18	.20	.26
No. 3 Coupling, tapped for pipe one end, compression other end.....	.11	.13	.21
No. 5 Elbow, compression one end, pipe thread other end.....	.17	.19	.24
No. 4 Nipple Union, compression one end, pipe thread on other end.....	.12	.15	.21
No. 6 Elbow, compression both ends.....	.22	.25	.33
No. 7 Tee, compression two opposite ends, pipe thread on other end.....	.26	.30	.40
No. 8 Tee, compression on two ends at right angles, pipe thread on other end.....	.26	.30	.40
No. 9 Tee, compression on three ends.....	.31	.36	.48
No. 10 Elbow, compression one end, pipe thread on other end.....	.19	.21	.29
Compression Nuts.....	.04	.04	.06
Cone Sleeves.....	.02	.02	.02

COPPER TUBING

Best quality seamless drawn soft copper tubing, annealed. Carried in coils of 40 to 50 ft. lengths.



List Price Per Ft.

1/8"	\$.10
3/16"	.12
1/4"	.15
5/16"	.18
3/8"	.22

PRIMING CUPS

"V" Type



No. 17



No. 18



No. 19

For use on "V" Type motors where vertical Priming Cups cannot be used. Brass, polished nickel plate.

No.		List Price, Each
17	Long Shank, 1/8" P. T.	\$.90
18	Short Shank, 3/8" P. T.	.90
19	"Cadillac," 1/4" P. T.	1.25

SHUT-OFF COCKS

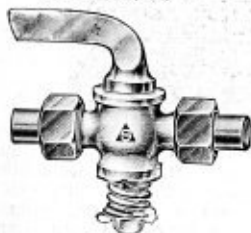
Brass



Nos. 10, 11, 14, 17



Nos. 12, 13



Nos. 110, 111, 22



Nos. 26, 27, 28

With compression coupling or pipe thread. Key ground in seat.

No.		List Price, Each
10	1/8" P. T. x 1/4" Tubing Union	\$.95
11	1/8" P. T. x 3/8" Tubing Union	.95
14	1/8" P. T. x 1/2" Tubing Union	.95
17	1/8" P. T. x 3/4" Tubing Union	1.35
12	3/8" P. T., both ends	.80
13	1/2" P. T., both ends	.90
110	1/2" Tubing Union, both ends	1.00
111	3/8" Tubing Union, both ends	1.10
22	3/8" Tubing Union, both ends	1.65
26	1/4" Compression Coupling, both ends	1.15
27	3/8" Compression Coupling, both ends	1.15
28	1/2" Compression Coupling, both ends	1.22
15	1/8" x 1/4" Compression Coupling	1.00
16	3/8" x 1/2" Compression Coupling	1.00
8	S. A. E. 1/8" P. T. x 1/2" Flared Union	.82
9	S. A. E. 1/4" P. T. x 3/8" Flared Union	.88
20	1/8" P. T. Female	.90
21	1/4" P. T. Female	1.00

PRIMING CUPS



Nos. 1 and 2

Nos. 3 and 4 (Short)
Nos. 5 and 8 (Long)

Nos. 5 and 6

Made of brass with ground seat and spring tension. Packed 10 in box.

No.	Length Shank	Pipe Thread	List Price Each
1	Upright 7/8"	1/8"	\$.50
2	Upright 7/8"	1/4"	.66
3	Angle 7/8"	1/8"	.70
4	Angle 7/8"	1/4"	.72
7	Angle 3/8"	1/8"	.68
8	Angle 1/2"	1/4"	.70
5	Upright 3/8"	3/8"	.50
6	Upright 1/2"	1/2"	.60

AIR AND DRAIN COCKS

Made of brass with ground seat.



Nos. 1, 2.



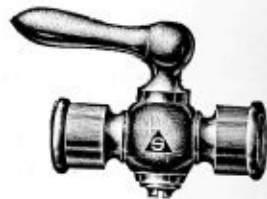
Nos. 630, 640



Nos. 72, 73



Nos. 6, 7



Nos. 37, 38



Nos. 63, 64

No.		List Price, Each
1	Carburetor Drain Cock, 1/8" P. T., polished	\$.40
2	Carburetor Drain Cock, 1/4" P. T., polished	.50
630	Drip Cock, 1/8" P. T., polished	.43
640	Drip Cock, 1/4" P. T., polished	.46
72	Lever Handle Drip Cock, 1/8" P. T.	.40
73	Lever Handle Drip Cock, 1/4" P. T.	.46
63	Air Cock, 1/8" P. T., polished	.55
64	Air Cock, 1/4" P. T., polished	.70
37	Air Cock, 1/8" P. T., Female both ends	1.00
38	Air Cock, 1/4" P. T., Female both ends	1.10
18	Air Cock, 1/8" P. T., Male both ends	.72
19	Air Cock, 1/4" P. T., Male both ends	.72
49	Air Cock, 1/8" P. T., Male one end, Female other	.95
50	Air Cock, 1/4" P. T., Female one end, Male other	1.08

TOOL STEEL BALLS

Best quality hardened tool steel balls, polished. Packed 1000 of one size in box.



STANDARD LIST PRICES

Size	List Price Per 100	Size	List Price Per 100
1/8"	.20	1/2"	3.00
5/32"	.25	9/16"	3.60
3/16"	.30	5/8"	4.00
7/32"	.50	11/16"	5.00
1/4"	.50	3/4"	6.00
9/32"	.65	13/16"	8.00
5/16"	.80	7/8"	11.00
11/32"	1.10	1 1/8"	12.00
3/8"	1.40	1 1/4"	16.00
7/16"	2.20		

S K F SELF-ALIGNING RADIAL BALL BEARINGS



We carry a large stock of these well-known ball bearings which will fit all makes of cars and trucks. These bearings are interchangeable with those of other manufacture, and in ordering if the purchaser will specify the car and part to be replaced with the S. K. F. number or number of the bearing to be replaced, there will be no difficulty in getting the right size.

Note. Bearings are listed as Nos. 1200, 1300, 403 etc. The last three figures are identical on every make of bearings, that is S. K. F. Bearing No. 1203 is the same as No. 6203 or No. 203, etc., of other manufacture.

LIST PRICES

LIGHT TYPE		MEDIUM TYPE		HEAVY TYPE	
1200 SERIES		1300 SERIES		400 SERIES	
1200	2.60	1300	4.50	403	10.00
1201	3.75	1301	4.75	404	11.50
1202	4.00	1302	5.25	405	13.00
1203	4.50	1303	6.00	406	16.00
1204	5.40	1304	7.00	407	19.00
1205	6.50	1305	8.25	408	22.00
1206	7.75	1306	10.50	409	27.00
1207	9.50	1307	12.50	410	33.00
1208	11.25	1308	15.00	411	39.00
1209	12.25	1309	18.00	412	47.00
1210	14.00	1310	21.50	413	60.00
1211	16.00	1311	26.00	414	80.00
1212	19.50	1312	32.00	415	95.00
1213	25.00	1313	39.00	416	110.00
1214	27.00	1314	46.00	417	130.00
1215	30.00	1315	54.00	418	150.00
1216	34.00	1316	65.00	419	200.00
1217	39.00	1317	78.00	420	250.00
1218	48.00	1318	92.00		
1219	55.00	1319	105.00		
1220	62.00	1320	120.00		
1221	72.00	1321	135.00		
1222	82.00	1322	160.00		

SPARK AND THROTTLE JOINTS



No. 1



No. 7



No. 13 (No. 3536)

Used for connecting Magneto, Timer, and Carburetor Levers with steering wheel, etc. Screw end fits timing and carburetor levers. The tapped hole fits the connecting rod and internal spring takes up wear and prevents lost motion. Body 3/16", diameter length 1 1/8", machine finished. Packed 25 one style in box.

Prices do not include nuts.

Size No.	Tapped End	Threaded End	List Price Each (without Nuts)
1	10-32	1/8-18	\$.15
2	1/4-20	1/8-18	.15
3	1/4-27	1/4-27	.15
4	1/4-27	1/4-27	.15
**5	1/4-28	1/4-28	.15
6	1/4-20	3/8-16	.15
**7	1/4-20	1/4-20	.15
8	1/8-32	1/8-32	.15
9	7/32-32	7/32-32	.15
12	6-32	10-32	.15
*13	7/32-32	7/32-32	.10
A	10-24	1/4-20	.15
B	10-24	10-24	.15
C	1/4-24	1/4-24	.15
D	10-32	1/4-20	.15
E	10-32	10-32	.15
F	10-32	1/4-28	.15
G	10-32	1/4-24	.15

Nuts for Ball Joints. (Specify thread in ordering).

List Price, each.....\$.02 1/2

* For use on Ford cars drilled for cotter pin.

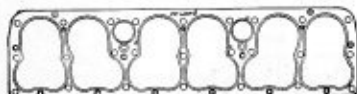
** Most popular sizes.

Copper-Asbestos Cylinder Head Gaskets

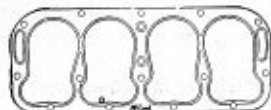
NOTE.—As List Prices on all Cylinder Head Gaskets frequently change with varying costs on copper, asbestos and labor, SEE DISCOUNT SHEET FOR LIST PRICES AND DISCOUNTS.

Passenger Cars

Gasket No.	Car	Model
10	Abbott 6.....	44
15	American 6.....	1916-16-18
10	Anderson 6.....	200-A
10	Auburn 6.....	(Continental)
15	Auburn 6.....	(Rutenber)
V63	Auburn 6 (Teetor-Hartley Mo.)	

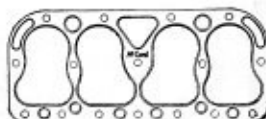


10	Baker 6.....	R. & L. 25
V121	Beaver (Interstate Motor).....	
30 or 17	Bell 4.....	16
26	Bell 4.....	18
27	Birch.....	Super Four
80	Briscoe 4-24 (Water Outlet).....	
23	Buick 4.....	
V51	Buick, 4 Cyl. 1917-18 4-36, E-35	
27	Bush 4.....	
10	Bush 6.....	
8	Cadillac 8.....	57
V110	Case (Continental Motor), B-6	
V25	Case.....	1916
16	Chalmers 6.....	35A & 35B
V7	Chalmers.....	1917-18, 35-C
V8	Chalmers 1916, 35-A, 6-30, 6-40	
7	Chevrolet 4.....	Baby Grand & 490
33	Chevrolet 8.....	D4 & D5
45	Cole 8.....	
V79	Cole 6.....	
10	Columbia 6.....	
V110	Comet 6 (Continental Motor)	
27	Commonwealth 4.....	
10	Continental Motor 6.....	7-W
14	Continental Motor 6.....	D
68	Continental Motor.....	7-R
V197	Continental Manifold	
V63	Continental Motor, 6 Cyl.	
		7-WA-302
V96	Continental 4 Cyl. Motor.....	
10	Crawford 6.....	40
V110	Crawford 6-40 (Continental M.)	
27	Crow Elkhart 4.....	1916-17
15	Crow Elkhart 6.....	
V88	Cunningham.....	4-V-3
10	Davis 6.....	46
70	Davis 4.....	
71	Davis 4.....	SD



Passenger Cars

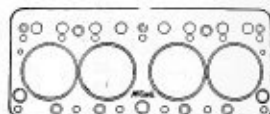
Gasket No.	Car	Model
10	Detroit 6.....	All Models
83	Denby.....	(Continental)
30 or 17	Dixie Flyer 4.....	
11	Dodge 4.....	All Models
31	Dort 4.....	4 & 5, 1915
30 or 17	Dort 4.....	5A, 6 & 9, 1916-17
27	Dort 4.....	8 & 11, 1918-19
26	Economy 4.....	36
10	Economy 6.....	45
27	Elcar 4.....	D4
10	Elcar 6.....	D6
18	Elgin 6.....	All Models
10	Empire 6.....	(Continental)
15	Empire 6.....	(Rutenber)
44	Essex 4.....	
24	Ford.....	



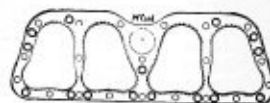
15	Glade 6.....	40
18	Grant 6.....	K & G, 1917-18
64	Grant 4.....	
V114	Grant (Falls Motor).....	6
V11	Gray Motor.....	F-104
V83	Gray Motor.....	F-404
26	Hackett 4.....	
26	Hatfield 4.....	
18	Halladay 6.....	1918
15	Halladay 6.....	1919
20	Harvard 4.....	20
V63	Haynes 6 (Continental Motor)	
V46	Haynes 12.....	44
V6	H A L 12 (Weidely Motor).....	
V220C	Hershell-Spillman Motor.....	
10	Hollier 6.....	206
6	Hudson.....	Super-Six
V127	Hupmobile Manifold.....	
3	Hupmobile 4.....	R1918
34	Hupmobile.....	Valve Plate, 32
V121	Interstate (Beaver Motor).....	
V36	Interstate (Rutenber Motor).....	
15	Jeffery 6.....	Chesterfield
45	Jackson 8 (Northway).....	
68	Jordan 6.....	M
V6	Kissell 12 (Weidely Motor).....	
V6	Kissell 6.....	1917-18, 100 Pt. 6
10	Kline 6.....	38
26	Laurel 4.....	35
V55	Lewis.....	
41	L. P. C. 6.....	(Lewis)
10	Lexington 6.....	All Models
10	Liberty 6.....	
21	Lozier 4.....	84

Passenger Cars

Gasket No.	Car	Model
V82	Lycoming Motor.....	1917-18, 9
	(With Triangular Flanges)	
V219C	Lycoming Motor.....	1916-18, 9
	(With Circular Flanges)	
V107	Lycoming Motor, 4 Cyl.....	1918



15	Madison 6.....	1916-17-18
18	Maibohm 6.....	B
15	Marion-Handley 6.....	A
42	Marmon 6, 34.....	All Models
V44	Mason.....	
V52	Mason.....	30
32	Maxwell 4.....	1914-15
1	Maxwell 4.....	1916-17-18
9	Metz 4.....	All Models
15	Metz 6.....	Master Six
V186	Mitchell.....	D-40
V185	Mitchell.....	C-42
V145	Moline.....	U-T-1037
V84	Moline Motor.....	
10	Monitor 6.....	M
V39	Monroe (Pt. Huron Motor).....	
		M-4-5-6
22	Monroe 4.....	M2
20	Monroe 4.....	M3
V63	Moon (Continental Motor), 6-48	
10	Moon 6.....	48, 1916-17
13	Moon 6.....	36, 38
26	Moore 4.....	36C
15	Moore 6.....	All Models
88	Nash 6.....	681-82-83-84-85
V110	National Highway 6, (Continental Motor).....	
V192	National Highway 12.....	
V35	Northway Motor.....	
V53	Northway Motor.....	
V28	Northway Motor.....	
V64	Northway 8 Cyl. Motor.....	
27	Norwalk 4.....	



37	Oakland 6.....	32, 32B, 34 & 34B
2	Oakland 4.....	36, 37, 38
45	Oakland 8.....	60
V53	Oldsmobile (Northway Motor).....	
	Without Flanges.	45
	With Flanges.	

Copper-Asbestos Cylinder Head Gaskets

NOTE.—As list Prices on all Cylinder Head Gaskets frequently change with varying costs on copper, asbestos and labor, SEE DISCOUNT SHEET FOR LIST PRICES AND DISCOUNTS.

Passenger Cars

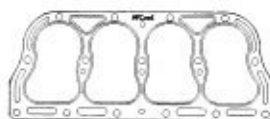
Gasket No.	Car	Model
V28	Oldsmobile, 1917-18, 8 Cyl....44	
	With Oblong Flanges, With Extra Plate.	
4	Oldsmobile 4.....42 and 43	
37	Oldsmobile 6.....37	
14	Overland 6.....82, 1915-16	
10	Overland 6.....85, 1916-17-18	
38	Overland 4.....75 and 90	
39	Overland 4.....83 and 85	
72	Overland 4.....4, 1919	



19	Packard 6.....2-25 and 2-35, 1917	
40	Packard 6.....3-25 & 3-35, 1918-19	
14	Paige 6, 46.....1915-16	
15	Paige 6.....39, 1917-18	
78	Paige 6.....15-19	
15	Pan-American 6.....All Models	
10	Pathfinder 6.....45	
10	Paterson 6.....45	
V79	Paterson (Old Motor).....6-45	
V63	Paterson (Continental Motor).....6-45	
V6	Pathfinder 6 (Continental Mo.)	
46	Pierce-Arrow 6.....38, 24 Valve	
V43	Pilot 6 (Teetor-Hartley Motor)	
V99	Pittsburgh Model Engine.....	
V108	Premier 6.....1918	
V24	Premier .....1917, 6-B	
26	Princess 4.....All Models	
26	Pullman 4.....1916-17-18	
69	Reo 6.....1920	
V110	Roamer (Continental Mo.) 6-54	
V36	Rutenber Motor.....	
5	Saxon 4.....All Models	
13	Saxon 6.....All Models	
15	Sawyer 6.....All Models	
10	Sayers 6.....All Models	
20	Scripps-Booth 4.....1915-16	
V187	Scripps-Booth Exh. Manifold.....	
37	Scripps-Booth 6.....39	
7	Scripps-Booth 4.....G	
29	Seneca 4.....27	
30	or 17 Sphinx 4.....1915	
V146	Standard Motor Constr't'n Co.	
V44	Sterling Motor.....	
V84	Stevens Salient 6.....	
V190	Studebaker Light 6.....	
43	Studebaker Big Six.....Series 19	
89	Studebaker Light 6, Series 20	
10	Supreme 6.....All Models	
V43	Teetor-Hartley Motor.....	
V115	Templar Cyl. Head.....A4-45	
V116	Templar Manifold.....	

Passenger Cars

Gasket No.	Car	Model
26	Texan 4.....	
10	Thoroughbred 6.....All Models	
27	Tulsa 4.....D1	
V71	Universal.....B	
67	U. S. Military Truck.....Class B	
V63	Vellie (Continental Motor).....6-39	
V110	Vellie (Continental Motor).....6-39	
10	Vellie, Light Six.....	
81	Waukesha Motor.....DU	
82	Waukesha Motor.....E and EU	
V6	Weidely 12 Cyl. Motor.....	
V6M	Weidely Manifold.....	
2	Westcott 4.....1914-15	
10	Westcott 6.....41, 1916	
68	Westcott 6.....Lighter Six B-38	
V188	White.....	
V189	White.....	
V110	Willys 89-6 (Continental Mo.)	
V205C	Willys 4.....	
V77	Wisconsin Motor.....	
V48	Woods.....	



Commercial Cars and Trucks

27	Atlas, ¾ Ton.....18	
V96	Beck (Continental Motor).....A	
26	Bell, 1200 lbs.....	
V96	Bessemer (Continental Mo.).....G	
26	Bethlehem, 1 & 1½ Ton.....1916	
23	Buick, 1500 lbs.....	
7	Chevrolet, 1 Ton.....A	
29	Corliss, ½ Ton.....	
30	Collier, ½, ¾ and 1½ Ton.....	
27	Comet, 1 Ton.....	
V49	Commerce (Buffalo Motor).....	
V96	Continental Motor.....15-B-20-A	
29	Day-Elder, ¾ Ton.....J	
29	Denby, ¾ Ton.....1916	
V96	Diamond T (Contin't'l Mo.) J-5	
V77	Dispatch (Wisconsin Motor).....G	
11	Dodge, ½ Ton.....	
15	Double Dr., 1½ Ton—Rutenber	
V96	Durable (Continental Mo.).....B	
30	or 17 Ellsworth, ½ Ton.....25A	
35	Federal, 1, 1½ and 2 Ton.....	
36	Federal, 3½ and 5 Ton.....	
24	and 25 Ford, ¾ Ton.....	
29	Forschler, ¾ Ton.....	
26	Gem, ½ Ton.....	
V96	Giant (Continental Mo.).....14-15	
V96	Globe (Continental Motor).....A	
V32	Gramm-Bernstein (Waukesha	

Commercial Cars and Trucks

Gasket No.	Car	Model
	Motor).....1W, 1½W, 2W	
V191	Hupmobile Truck.....	
V96	Independent.....	
V32	Indiana (Waukesha Motor).....T	
V16	International Truck.....G	
V5	Koehler (Gray Motor).....K, L	
30	or 17 Kearns, ½ Ton.....	
V110	Lane (Continental Motor).....8	
26	Lawson, ½ Ton.....M35	
29	Lafayette, ½ Ton.....	
V143	Liberty Truck (U. S. Gov't).....	
26	Luverne, 2 Ton.....	



V32	Manley (Waukesha Mo.).....30-40	
1	Maxwell, ½ and 1 Ton.....	
18	Maibohm, ½ Ton.....	
27	Myers, 1 and 1½ Ton.....	
27	Norwalk, 1 and 1½ Ton.....	
2	Oakland, 1 Ton.....	
30	or 17 Old Hickory, ¾ Ton.....35	
38	Overland, 800 lbs.....	
39	Overland, 1200 lbs.....	
V110	Parker (Continental Motor).....	
V73	Ranier (Light Mo.).....R-2-4-5	
26	Reya, 1 Ton, 6.....	
12	Republic, ¾ and 1 Ton.....	
30	or 17 Rush, ¾ Ton.....D	
29	Selden, ¾ Ton.....G	
V96	Sandow (Contin't'l Mo.).....G, H	
29	Seneca, ½ Ton.....	
27	Southern, 1 and 1½ Ton.....	
20	Stewart, ¾ Ton.....5	
29	Stewart, ¾ Ton.....6	
V5	Superior (Gray Motor).....A	
V96	Superior (Continental Mo.).....D	
V11	Traffic (Gray Motor).....	
V74	Vim.....	
V96	Wilson (Continental Motor).....	
V77	Winther (Wisconsin Mo.).....38	
V32	Wisconsin (Waukesha Motor)	
V189	White.....	
V188	White.....	

Tractors

29	Allis-Chalmers.....	
26	Kardell Utility.....	
29	Bean Track Pull.....	
28	Fordson.....	
29	Indiana.....	
29	Le Roi.....	
29	Star.....	
29	Victory Cub.....	

COPPER-ASBESTOS

Standard Sizes

FLANGE OR EXHAUST GASKETS



No.	Centre Hole	Distance C. C. of Bolt Holes	Size Over All	List Price per 100	No.	Centre Hole	Distance C. C. of Bolt Holes	Size Over All	List Price per 100
800	1/2	1-1/2	1 x2	\$4.56	835	1-5/8	2-3/4	2-1/4 x3-7/16	\$7.38
800A	1/2	1-3/4	1-3/16 x2-1/2	4.56	836	1-5/8	2-7/8	2-1/4 x3-5/8	7.38
800B	9/16	1-25/32	1-1/4 x2-1/2	4.65	837	1-5/8	2-7/8	2-3/8 x3-7/8	7.58
800C	11/16	1-5/8	1-3/8 x2-5/16	4.74	837A	1-5/8	3-1/2	2-1/2 x4-1/2	7.58
800D	11/16	1-3/4	1-9/16 x2-11/16	3.05	837B	1-5/8	3	2-3/8 x3-13/16	7.38
800E	23/32	1-3/4	1-3/8 x2-1/2	4.80	837C	1-5/8	3	2-1/4 x4	7.38
800F	13/16	1-5/8	1-1/4 x2-1/4	5.04	838	1-11/16	2-3/4	2-5/16 x3-1/2	7.38
800H	13/16	1-3/4	1-5/8 x2-3/8	5.04	839	1-11/16	2-11/16	2-1/2 x3-3/4	7.44
801	1	1-15/16	1-5/8 x2-5/8	5.67	839A	1-11/16	2-15/16	2-1/2 x3-5/8	7.44
802	1	2-1/8	1-1/2 x2-7/8	5.67	840	1-3/4	2-3/4	2-3/8 x3-5/8	7.47
802A	1	2-1/4	1-3/4 x3-1/8	5.67	841	1-3/4	2-3/4	2-3/8 x3-5/8	7.47
803	1	1-7/8	1-11/16 x2-13/16	5.67	842	1-3/4	2-3/4	2-3/8 x3-7/8	7.47
804	1	1-3/4	1-3/8 x2-1/2	5.67	843	1-3/4	3	2-1/2 x4	7.47
805	1	1-7/8	1-1/2 x2-5/8	5.67	844	1-3/4	3-1/8	2-1/2 x4-1/4	7.47
806	1	2	1-1/2 x2-3/4	5.67	845	1-3/4	3-1/4	2-1/2 x4-1/4	7.47
807	1-1/16	1-31/32	1-1/2 x2-23/32	5.73	846	1-3/4	3	2-1/2 x3-3/4	7.47
808	1-1/16	1-1/2	1-3/8 x2	5.73	846A	1-3/4	3-1/8	2-1/2 x4-1/4	7.47
808A	1-1/16	2	1-1/2 x2-5/8	5.73	846B	1-3/4	2-15/16	2-3/4 x3-3/16	7.47
809	1-1/8	2-1/8	1-11/16 x3	5.82	847	1-13/16	3-1/4	2-5/8 x4-1/8	7.83
809A	1-1/8	2-3/8	1-7/8 x3-1/8	5.82	847A	1-13/16	2-3/8	2-3/16 x3	8.21
809B	1-1/8	2-3/8	1-9/16 x3	5.82	848	1-27/32	3	2-3/4 x3-7/8	8.91
809C	1-1/8	2-1/2	1-7/8 x3-1/16	5.82	848A	1-7/8	3-1/8	2-1/2 x4-1/8	9.15
809D	1-1/8	2-1/4	1-3/4 x3-1/4	5.82	848B	1-7/8	3-1/8	2-1/2 x4-1/4	9.15
810	1-9/16	2-1/4	1-13/16 x2-7/8	5.88	848C	1-7/8	3-3/8	2-3/4 x4-3/16	9.15
811	1-3/16	1-7/8	1-3/4 x2-5/8	5.88	849	1-7/8	3-1/2	2-3/4 x4-1/2	9.15
812	1-1/4	2-3/16	1-7/8 x2-15/16	6.06	850	1-7/8	3-1/8	2-1/2 x4	9.15
813	1-1/4	2-1/2	1-7/8 x3-3/8	6.06	851	1-7/8	3-1/4	2-3/4 x4-1/8	9.15
814	1-1/4	2-3/8	1-7/8 x3	6.06	852	1-7/8	3-3/8	2-3/8 x4-3/8	9.15
815	1-1/4	2-3/8	1-3/4 x3-1/8	6.06	853	1-7/8	3-1/8	2-5/8 x4-1/16	9.15
816	1-1/4	2-1/4	1-3/4 x2-15/16	6.06	854	1-7/8	3-1/4	2-1/2 x3-3/4	9.30
817	1-1/4	2-3/8	1-7/8 x3-1/16	6.06	854A	1-15/16	2-29/32	2-11/16 x3-3/4	9.30
818	1-1/4	2-1/4	2-1/8 x3-5/8	6.06	854B	1-15/16	3-3/8	2-11/16 x4-1/16	9.30
818A	1-1/4	2-3/16	1-7/8 x2-15/16	6.06	854C	1-15/16	2-7/8	2-13/16 x3-3/4	9.30
818B	1-19/64	2-11/32	2 x2-23/32	6.30	954D	1-15/16	3-1/4	2-9/16 x4	9.30
819	1-5/16	2-5/32	1-13/16 x2-13/16	6.54	854E	1-15/16	3	2-3/4 x3-3/4	9.30
820	1-5/16	2-1/4	1-15/16 x2-1/8	6.54	855	1-15/16	3-5/32	2-3/4 x4-1/8	9.30
820A	1-5/16	2-11/16	2-3/16 x3-7/16	6.54	855A	2	3-1/4	2-11/16 x4-1/4	9.78
821	1-3/8	2-3/8	2 x3-1/4	6.57	855B	2	3-1/4	2-7/8 x4	9.78
822	1-3/8	2-5/8	2-1/4 x3-1/2	6.57	856	2	3-1/4	2-3/4 x4-3/8	9.78
823	1-3/8	2-11/16	1-7/8 x3-1/4	6.57	857	2	3-3/8	2-5/8 x4-1/4	9.78
823A	1-3/8	2-3/4	2-1/4 x2-7/8	6.57	858	2	3-1/2	2-1/2 x4-13/32	9.78
823B	1-3/8	3	2-1/8 x3-3/4	6.57	859	2-1/16	3-1/16	2-5/8 x4-1/8	9.78
824	1-7/16	2-5/8	1-3/4 x3-11/32	6.63	860	2-1/16	3-3/8	2-3/4 x4-1/8	11.91
825	1-7/16	3	2-1/4 x3-7/8	6.63	861	2-1/16	3-1/4	2-5/8 x4-1/4	11.91
826	1-7/16	2-5/8	2 x3-1/2	6.63	862	2-1/16	4	2-15/16 x4-3/16	11.91
827	1-7/16	2-3/4	2 x3-7/16	6.63	863	2-1/8	3-1/8	3-1/2 x5-1/2	11.91
827A	1-7/16	2-11/16	2-3/16 x3-9/16	6.63	864	2-1/8	3-1/4	2-3/4 x4-5/32	12.39
828	1-1/2	2-3/4	2-1/4 x3-1/2	6.69	865	2-1/8	3-1/2	2-3/4 x4-3/8	12.39
829	1-1/2	2-3/8	2-1/32 x3-1/4	6.69	866	2-3/16	3-1/8	2-13/16 x3-27/32	12.69
830	1-1/2	2-3/4	2-3/8 x3-5/8	6.69	866A	2-3/16	3-5/8	3 x4-3/16	12.69
830A	1-1/2	2-11/16	2-3/16 x3-1/2	6.69	866B	2-3/16	3-5/8	3 x4-3/4	12.69
830B	1-1/2	2-1/4	2 x2-7/8	6.69	866C	2-3/16	3-1/2	3-1/8 x4-3/8	12.69
830C	1-1/2	2-5/8	2-1/8 x3-1/4	6.69	867	2-3/16	3-1/2	2-7/8 x4-3/8	12.69
831	1-9/16	2-5/8	2-1/8 x3-3/8	7.32	867A	2-1/4	3-1/8	3 x3-7/8	12.75
832	1-9/16	2-1/8	2 x2-7/8	7.32	867B	2-1/4	3-3/8	3-1/4 x4-3/8	12.75
832A	1-9/16	3	2-3/8 x3-7/8	7.32	868	2-1/4	3-1/2	3-1/32 x4-5/16	12.75
833	1-5/8	2-23/32	2-1/4 x3-5/8	7.38	869	2-1/4	3-3/4	3 x4-3/4	12.75
834	1-5/8	2-7/8	2-1/4 x3-3/4	7.38	870	2-5/16	3-3/4	3 x4-3/4	14.64
					871	2-3/8	4	3-1/2 x4-7/8	14.73
					873	2-7/16	3-3/4	3 x4-21/32	14.82

ROUND COPPER-ASBESTOS GASKETS

Open Type



Made of high quality soft copper and asbestos.
Sizes guaranteed uniform.

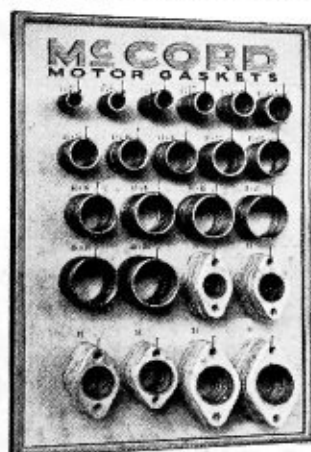
Inside Diameter

Inside Diameter	List Price Per 100
3/8", 1 1/8", 1"	\$2.80
1 1/8", 1 1/4", 1 1/2", 1 3/4"	3.15
1 3/4", 1 7/8", 1 15/16", 1 1/2"	3.45
1 1/2", 1 5/8", 1 3/4", 1 7/8"	3.95
1 3/4", 1 7/8", 1 15/16", 1 3/4"	4.40
2 1/8", 2 1/4", 2 1/2", 2 3/4"	4.70
2 3/8", 2 1/2", 2 5/8", 2 3/4"	5.20
2 1/2", 2 3/4", 2 5/8", 2 3/2"	5.35
2 3/4", 2 5/8", 2 3/2", 2 3/4"	6.30
3 1/8", 3 1/4", 3 1/2", 3 1/4"	6.95
3 1/4", 3 3/8", 3 1/2", 3 1/2"	7.55
3 1/2", 3 3/8", 3 1/2", 3 3/4"	8.35
3 1/2", 3 3/8", 3 1/2", 4"	9.90
4 1/4"	10.40

COPPER-ASBESTOS GASKET DISPLAY BOARDS

A stock of standard sized Gaskets for immediate use. They carry all the small Gaskets used on such popular cars as the Ford, Buick, Studebaker, Cadillac, Continental Motors, Overland, Dodge, Hupp, Chevrolet, Maxwell, Dort, Hudson, Essex and others.

Twenty-five of each size Gasket are furnished and the sizes supplied will fill the most frequent requirements. The Boards are both serviceable and attractive, and make a good display for window or wall.



BOARD No. 1

Assortment includes 575 Gaskets of the following sizes.

Closed Type Copper-Asbestos Gaskets

25	$\frac{3}{8}$ " x $\frac{1}{2}$ "	50	$1\frac{1}{4}$ " x $1\frac{1}{2}$ "	25	$1\frac{1}{8}$ " x $1\frac{1}{8}$ "
25	23/32" x 63/64"	25	$1\frac{1}{8}$ " x $1\frac{1}{8}$ "	25	$1\frac{1}{4}$ " x 2"
25	$\frac{3}{4}$ " x 1"	25	$1\frac{1}{8}$ " x $1\frac{1}{4}$ "	25	$1\frac{1}{8}$ " x $2\frac{1}{8}$ "
25	$\frac{7}{8}$ " x $1\frac{1}{8}$ "	25	$1\frac{1}{8}$ " x $1\frac{1}{2}$ "	25	2" x $2\frac{1}{8}$ "
25	1" x $1\frac{1}{4}$ "	25	2-1/32" x $2\frac{1}{4}$ "	25	2-1/16" x $2\frac{1}{8}$ "
25	1-1/16" x $1\frac{1}{8}$ "				

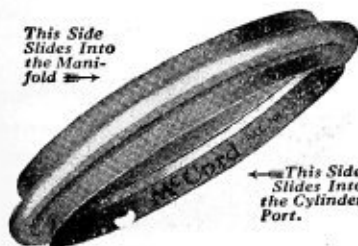
Exhaust or Flange Type Copper-Asbestos Gaskets

25	$1\frac{1}{8}$ " Center Hole	25	$1\frac{1}{8}$ " Center Hole
25	$1\frac{1}{4}$ " Center Hole	25	$1\frac{1}{4}$ " Center Hole
25	$1\frac{1}{2}$ " Center Hole	25	$1\frac{1}{8}$ " Center Hole

Display Board Assortment. List Price.....\$28.50

2-IN-1 COPPER-ASBESTOS FORD MANI- FOLD GASKET

This Side
Slides Into
the Mani-
fold



← This Side
Slides Into
the Cylinder
Port.

REPLACES FORD PARTS

3063-Inlet and Exhaust Pipe Gasket

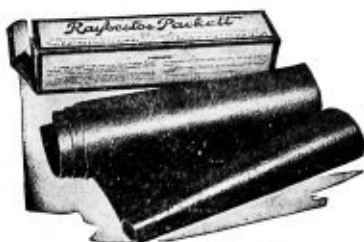
3064-Inlet and Exhaust Pipe Gland

A Gasket and a Guide for Ford Intake and Exhaust Manifolds

List Price, per 100.....\$6.00

RAYBESTOS PACKET

Consists of a sheet of close woven long fibre asbestos with a brass wire insert, making it impervious to heat, oil, water or steam. Black graphited on one side, red on other side. Packed in attractive carton for counter display. Sizes of Raybestos Packet, 10" x 40". Weight, 1½ lbs. net.



Raybestos Packet. List Price.....\$3.75

RED AND BLACK ASBESTOS SHEET PACKING



Will not burn, blow out or squeeze out. Answers every requirement for an automobile gasket. Black graphited on one side, other side naturally red. Not effected by heat, oil, water, steam, or gas. Resilient and pliable. Standard size sheets 50" x 50". Made in two thicknesses: 1/32" and 1/16"; 1/32" weighs 2½

lbs. per sq. yd.; 1/16" weighs 5½ lbs. per sq. yd.

Red and Black Asbestos Sheet Packing.

List Price, per lb.....\$2.00

RAYBESTOS PACKING



A fine material for making exhaust gaskets or for use where exposed to heat, hot water, etc. Woven of asbestos and fine brass wire in two thicknesses, 1/16" and 1/32"; width,

36". Coated on one side with black graphite, other side red.

Raybestos Packing. List Price, per lb.....\$2.00

MOGUL PACKING



For valve stems, water pumps, transmission shafts, etc., where a water-proof, round packing is required. Made of asbestos yarn, impregnated with a heat-resisting lubricating compound, then

twisted into a ¼" strand. Wound on spools and packed in unit cartons containing one spool.

Mogul Packing. List Price, per ½ lb. spool.....\$1.50

Mogul Packing. List Price, per ¼ lb. spool......90

RODTITE PACKING



For use on valve stems, water pumps or anywhere a high grade asbestos string packing is needed. Made of long fibre asbestos, treated with a heat-resisting lubricant that will not stick or gum. Guaranteed to withstand heat, steam, or pressure.

Put up in $\frac{1}{4}$ lb. spools enclosed in cartons.

Rodtite Packing. List Price, per spool.....\$.75

ASBESTOS WICK PACKING



Made from long fibre asbestos, tightly twisted in form of a round lamp wick $\frac{1}{4}$ " in diameter. Especially useful for packing water pumps, etc. Put up in $\frac{1}{2}$ and 1 lb. balls.

Garco Asbestos Wick Packing.

List Price, per lb., \$1.50

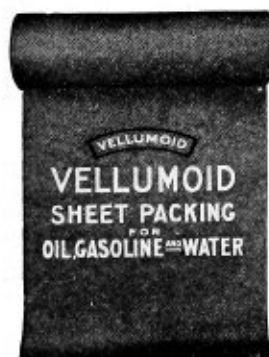
COTTON WICKING



Twisted long fibre cotton for packing water lines or other parts not exposed to heat. Consists of many strands, loosely twisted together. Comes in $\frac{1}{4}$ lb. balls.

Cotton Wicking. List Price, per lb.....\$.75

VELLUMOID

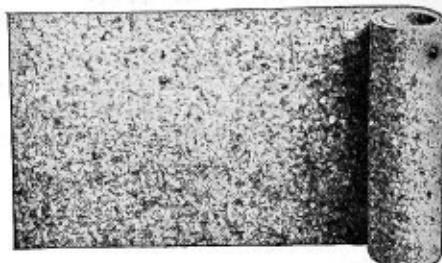


Consists of heavy parchment material, chemically treated to resist the action of oil, water, etc. Do not confuse this with ordinary cardboard or heavy paper. Vellumoid is highly recommended for making light gaskets where not exposed to much heat. Comes in rolls, two thicknesses; light and heavy. One width only, 36".

Vellumoid, Heavy. List Price, per yd.....\$2.70

Vellumoid, Light. List Price, per yd.....1.50

SHEET FELT

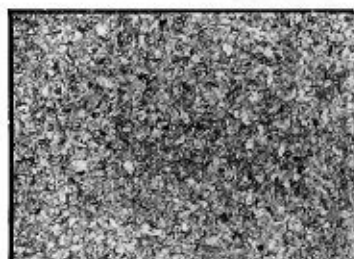


Comes in rolls 60" wide of three thicknesses— $\frac{1}{4}$ ", $\frac{1}{2}$ ", $\frac{3}{8}$ ". Two colors, grey or pink. Made of best quality wool felt, the pink being a higher quality than the grey.

Pink Sheet Felt. List Price, per lb.....\$4.00

Grey Sheet Felt. List Price, per lb.....2.50

SHEET CORK



Consists of fine grain cork rolled into sheets. Size 36" x 12". Frequently used for cylinder head gaskets, etc., being impervious to oil or water.

Sheet Cork. List Price, per sheet.....\$1.00

SHEET ASBESTOS

Principally used for protecting engines when burning out carbon, welding purposes, etc., or where a heat insulating material is needed. Not recommended for making gaskets. Thickness, $\frac{1}{16}$ ". Comes in rolls 36" wide.



Sheet Asbestos. List Price, per lb.....\$.40

RED VULCANIZED FIBRE



Impervious to heat, moisture and oil. Carried in sheets 10" x 15" in the following thicknesses: $\frac{1}{32}$ ", $\frac{1}{16}$ ", $\frac{1}{8}$ ", $\frac{3}{16}$ " and $\frac{1}{4}$ ".

NOTE.—We do not sell less than full size sheet of fibre.

Red Vulcanized Fibre. List Price, per lb.....\$1.50

JOHNS-MANVILLE AUTO TAPE

Meets all requirements for a high grade insulating tape, for use in automobile or electrical work. Heavily frictioned and strongly adhesive. Packed in neat carton containing 2, 4 and 8 oz. rolls.



Johns-Manville Auto Tape. List Price, per lb.....\$.85

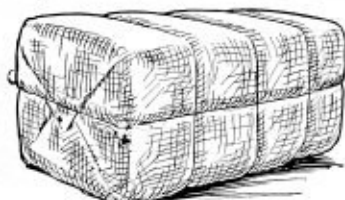
LIBERTY AUTO TAPE



Made expressly to meet the demand for a high grade insulating tape, meeting all requirements for a strong adhesive insulating material. Packed in individual cartons containing 2, 4 and 8 oz. rolls.

Liberty Auto Tape. List Price, per lb.....\$.85

WASTE



Best quality white cotton waste thoroughly clean and free from all foreign materials. Unlike ordinary waste it may be used on the finest polished surfaces without danger of scratching or marring finish.

Carried in the following size packages.

LIST PRICES

100-lb. bales, burlap covered, per pound.....	\$.30
50-lb. bales burlap covered, per pound.....	.31½
25-lb. bales, burlap covered, per pound.....	.33
10-lb. packages, per pound.....	.35
5-lb. packages, per pound.....	.36

COLORED WASTE—Good quality Colored Waste suitable for ordinary shop use and frequently preferred where a lower priced grade of waste will answer the purpose equally well. Carried in 100 lb. bales only.

100-lb. bales List Price, per pound.....\$.22½

RED ROLL WASTE



A specially fine XXX grade of white cotton Waste attractively packed in red paper carton containing 1-lb. Very popular with the motorist, as package may be carried in tool box.

Red Roll White Waste, 1-lb. carton only.

List Price, Each.....\$.45

WIPING CLOTH



Small pieces, odds and ends from the cotton mills. Made in two grades, coarse-woven and fine close woven. The close woven material is somewhat higher in price. Sizes range from about 1 ft. square to 2 or 3 ft. square.

Cheese Cloth, coarse woven. List Price, per lb. \$.75

Cheese Cloth, fine woven. List Price, per lb..... 1.10

WIPING RAGS



Discarded underclothing chemically treated and thoroughly cleaned. Better than waste for polishing brass, etc. Comes in 100 lb. bales.

Wiping Rags. List Price, per lb.....\$.40

SAFETY OILY WASTE CANS



Absolutely safe against spontaneous combustion and reduce fire risks to a minimum. Equipped with self-closing spring cover which always keeps cover closed. Being made entirely without solder, of heavy galvanized iron, cannot be injured by fire. Made in the following sizes.

List Price, Each

No. 3—Diameter 15" x 24½" high.....	\$8.00
No. 4—Diameter 17½" x 27½" high.....	9.00

SPONGES

We show herewith the best selections of sponge assortments. Each Sponge is tagged with the proper retail price, enabling the dealer to tell at a glance the exact price of each—eliminating all guess work and insuring a fair profit.

BIG 4 ASSORTMENT



24 Velvet or Sheep's Wool Sponges of four different sizes and grades. Packed in heavy cardboard carton, making a compact good looking display. Assortment contains:

6 Sponges to retail at.....	\$.50
6 Sponges to retail at.....	.75
6 Sponges to retail at.....	1.00
6 Sponges to retail at.....	1.25
24 Sponges, Big 4 Assortment, List Price.....	\$21.00

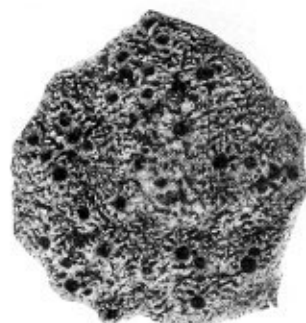
ROCK ISLAND SPONGES



Good quality generous size Sponges packed in substantial cardboard boxes, making a neat display. Each Sponge marked with the retail selling price.

\$1.00 Retail Sponge, packed 6 in box	
List Price, per box.....	\$6.00
\$1.25 Retail Sponge, packed 6 in box.	
List Price, per box.....	7.50
\$1.50 Retail Sponge, packed 4 in box.	
List Price, per box.....	6.00
\$2.00 Retail Sponge, packed 2 in box.	
List Price, per box.....	4.00
\$2.50 Retail Sponge, packed 2 in box.	
List Price, per box.....	5.00
\$3.00 Retail Sponge, packed 2 in box.	
List Price, per box.....	6.00

EXTRA FINE SHEEP'S WOOL SPONGES



A soft, silky Sponge very popular with automobile washers. Large, full sized sponges.

\$2.00 Retail Sponge, packed 2 in box.	
List Price, per box.....	\$4.00
\$2.50 Retail Sponge, packed 2 in box.	
List Price, per box.....	5.00
\$3.00 Retail Sponge, packed 2 in box.	
List Price, per box.....	6.00

CHAMOIS



Genuine oil tanned Chamois carefully selected skins of uniform high quality soft and smooth.

No.	Size	List Price, Each
10	14"x18"	\$1.00
13	18"x24"	2.00
15	20"x26"	2.75
17	24"x27"	3.50

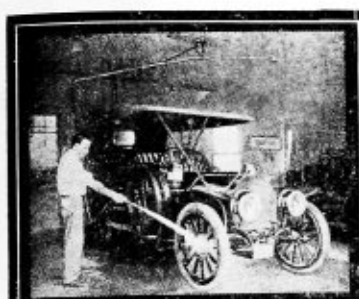
BLACK HORN CHAMOIS



Finest Chamois made. French oil tanned, carefully selected skins cut to pattern and branded for quality. Each skin is packed in individual transparent envelope. 12 skins in carton.

No.	Size	List Price, Each
3	19 3/4"x20 1/2"	\$2.50
4	22 1/2"x24"	3.75
5	25 1/2"x27 1/4"	4.25
6	27 3/4"x30 1/4"	5.00

ADVANCE OVERHEAD WASHER

**"ADVANCE" OVERHEAD FOUNTAIN**

PULL DOWN hose you get water
LET GO and water shuts off

MADE IN U.S.A.

end, enabling its use in the most convenient position. Saves 50% in water bills, as water may be instantly turned on or off by a slight pull on hose. In use in thousands of garages with perfect success. Advance Overhead Washer. List Price, Each, \$35.00

BROOMS

Rattan Mixed—Bamboo Mixed

These two brooms are ideal for hard service on concrete or rough floors. Made of first quality corn bristles, the bristles being reinforced with either rattan or bamboo to prevent wearing out. Two metal bands are fastened to junction of bristles and handle, securely holding the bristles in place.



Will outlast three or four ordinary brooms.
Brooms—Rattan Mixed. List Price, Each, \$1.50
Brooms—Bamboo Mixed. List Price, Each, 1.25

GARAGE SWEEPER



Made from selected red fiber with polished yellow block. Two threaded handle holes and long polished handle. Size of broom 16 x 3 1/2 in. Especially adapted for garage sweeping on rough wood or cement floors. Garage Sweeper. List Price, Each, \$3.00

WHEEL WASHING BRUSH
No. 1315

Made of white fiber, for scrubbing and cleaning wood or wire wheels between spokes, etc.

Wheel Washing Brush. List Price, Each, \$1.50

WIRE WHEEL BRUSH
No. 100

Genuine black China bristles, attached to wire frame with wood handle. Bristles are very stiff to insure removal of grease, etc.

Wire Wheel Brush. List Price, Each, \$1.50

WHISK BROOM



Good quality whisk broom for use in dusting out cars, etc.

Whisk Broom. List Price, Each, \$.50

SHINO MITTEN DUSTER

A "dustless" duster that dusts, cleans and polishes automobile bodies or all polished surfaces with one operation. Slips on the hand like a glove. Made from soft cotton yarn, chemically treated to absorb dust and give a high polish. When dirty may be washed in warm water and made as good as new.



Shino Mitten Duster. List Price, Each, \$.60

GASOLINE CLEANING BRUSH



For cleaning engines, castings, wire wheels, etc. A 2-inch round brush made of heavy horsehair bristles, securely fastened in metal holder. Just the thing for the repair shop. Bristles will not loosen or fall out.

Gasoline Cleaning Brush. List Price, Each, \$1.50

PAINT BRUSHES



Good serviceable Brushes with bristles vulcanized in rubber. With reasonable care will give excellent results in any kind of painting.

Width, 1 inch. List Price, Each, \$.60
Width, 1 1/2 inch. List Price, Each, .85
Width, 2 inch. List Price, Each, 1.10

BATTERY AND WASH APRONS



Made to supply the demand for an apron that will stand up under the hard usage in battery stations. Made of the best grade of tough, pliable rubber fabric under a special process, insuring extra long wear. Not affected by acid and will not crack. Made in two sizes—46"x32" and 40"x24", with heavy stitched braiding which prevents frayed edges.

Invincible Battery Aprons. Sizes 40" x 24".
List Price, Each, \$3.50
Invincible Battery Aprons. Size 46" x 32".
List Price, Each, 4.50

WASH APRONS

Made of lighter quality material with hemmed and bound edges. Answers all requirements for a good low-priced Wash Apron.

Wash Aprons—
Enameled Drill. List Price, Each, \$2.50
Enameled Duck. List Price, Each, 3.00

RADIATOR FILLING CAN



Made of heavy gauge galvanized steel with all seams reinforced to prevent leakage. Equipped with funnel-spout for easy pouring. Capacity 3 gallons.

Radiator Filling Can, List Price.....\$2.50

DOVER RADIATOR FILLER

Capacity 6 qts.; diameter 7"; height 13½" with ¾" spout. Made of heavy steel galvanized with all seams reinforced, making it rust-proof and leak-proof. Equipped with brass strainer for keeping dirt out of radiator. Weight 5½ lbs.



Dover Radiator Filler, List Price.....\$3.30

WOOD JACKETED CANS

Made in two sizes, 5 and 10 gallon capacity. Tinned steel with substantial wood jackets and equipped with strong handle.

Wood Jacketed Cans, 5 gal. Capacity.

List Price, Each.....\$1.00

Wood Jacketed Cans, 10 gal. Capacity.

List Price, Each.....\$1.75



BUCKETS



Heavy gauge steel galvanized to prevent rusting.

Capacity, 10 qts.

Buckets, List Price,

Each.....\$.75

DUPLIX FOLDING BUCKETS



Made of heavy water proof canvas. When folded occupy a minimum of space, when opened for use cannot buckle or bend over—reinforced with rust-proof steel braces. Water tight, serviceable under all conditions. Made in two sizes with and without spout.

No. 5 With Spout. Capacity 10 qts.; diam. 11"; depth 9½"; size folded 13¼"x6"x2¼".

List Price.....\$2.75

No. 12 Without Spout. Capacity 10 qts.; diam. 11"; depth 9½"; size folded 13¼"x6"x2¼".

List Price.....\$2.25

BOKO JR. FOLDING BUCKET



Made of gasoline-proof fabric for use without funnel, being made with pitcher spout. Made with neat strap handle and folds up 7"x9"x1½", fitting the door pocket of any car. Capacity 7 qts.

Boko Jr. Folding Bucket, List Price, Each.....\$1.00

OFFSET GASOLINE FUNNEL (2-in-1)



Offset spout is removable, forming regular type funnel if desired. Rigidly held in place by hook. Heavily copper plated steel and equipped with brass strainer and removable hoop for holding chamois.

No. 4000—4 Qt.; 9¾" diameter top, 1¼" outlet; 10" offset spout. List Price.....\$4.00

No. 8000—8 Qt.; 12" diameter top; 1¼" outlet; 10" offset spout. List Price.....4.50

No. 12000—12" diameter top; 1¼" outlet; 15" offset spout. List Price.....4.80

TIN FUNNELS

A well made, light weight tin funnel, made without strainers.



No.	Capacity	List Price
11½.	½ Pt.	.25
12½.	1 Pt.	.30
111.	1 Qt.	.45
112.	2 Qt.	.60
114.	1 Gal.	.75

GASOLINE FUNNELS

Heavily copper plated on strong steel with fluted tip.

Equipped with fine brass strainer and removable hoop

for holding chamois.



No. 10—1 Qt.; 5" diameter, 6 3/4" high; 1/2" Tip.	
List Price	\$1.20
No. 20—2 Qt.; 8 1/2" diameter, 9 1/2" high; 3/8" Tip.	
List Price	1.65
No. 40—1 Gal.; 9 3/4" diameter, 11" high; 3/8" Tip.	
List Price	1.95
No. 80—2 Gal.; 12" diameter, 12 1/2" high; 3/8" Tip.	
List Price	2.30

NON-EVAPORATING GASOLINE MEASURE

Fitted with cover plug opened or closed by half turn of the hand, thus preventing evaporation if gasoline remains in can. Made of heavy galvanized steel with riveted-on handles. Seamless reinforced to prevent leakage. Capacity 5 gallons. Diameter 11 1/4"; height 18"; weight 10 lbs.

No. 25 Non-Evaporating Gasoline Measure.	
List Price	\$5.00
No. 250 Non-Evaporating Gasoline Measure. Identical with No. 25 excepting enameled red.	
List Price	\$5.75

NON-EXPLOSIVE GASOLINE CAN
Absolutely Safe

Endorsed by the Underwriters Laboratories for handling any kind of explosive liquids. Easily filled. Pours quickly, guaranteed not to spill or allow evaporation. Valve is kept automatically closed by pressing on handle. May be turned upside down without spilling. Made of heavy gauge lead-coated sheet steel, no solder used, all seams reinforced. Safety spout and valve made of brass. Will outlast a half dozen ordinary cans. Made in the following sizes:

Non-Explosive Gasoline Can, Capacity 1 Qt.	
List Price, Each	\$2.00
Non-Explosive Gasoline Can, Capacity 2 Qt.	
List Price, Each	2.50
Non-Explosive Gasoline Can, Capacity 1 Gal.	
List Price, Each	3.00
Non-Explosive Gasoline Can, Capacity 2 Gal.	
List Price, Each	4.00
Non-Explosive Gasoline Can, Capacity 3 Gal.	
List Price, Each	5.00
Non-Explosive Gasoline Can, Capacity 5 Gal.	
List Price, Each	6.00

GASOLINE MEASURES

Made of heavy gauge thoroughly galvanized steel with all seams reinforced. Handles solidly riveted to can. Guaranteed not to rust or leak. Capacity 5 gallons; size 11 1/4" diameter 17" height; weight 10 lbs.

No. 15 Gasoline Measure. List Price	\$4.00
No. 150 Gasoline Measure, identical with No. 15, but enameled red. List Price	\$5.00

AUTO OIL MEASURES

Made of heavily copper plated steel, guaranteed not to rust or leak.

Carried in the following sizes:

	List Price Each
No. 9. Capacity 1 Pt.	\$.85
No. 11. Capacity 1 Qt.	1.00
No. 12. Capacity 2 Qt.	1.35
No. 14. Capacity 4 Qt.	1.55

COMBINATION MEASURE AND FUNNEL

Made of heavily copper plated steel, warranted not to rust or leak.

	List Price Each
No. 5. Capacity 1 Pt.	\$1.40
No. 10. Capacity 1 Qt.	1.50
No. 20. Capacity 2 Qt.	2.15
No. 40. Capacity 4 Qt.	2.70

SWING SPOUT OIL MEASURE

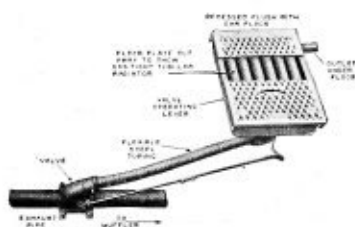
A convenient, easy method for handling oil in the garage or service station. Designed with self-closing swinging spout which automatically opens to permit liquid to flow when lowered—when raised closes the valve. Made with specially designed top to prevent spilling of oil. Made of heavy sheet metal, heavily coppered and guaranteed not to leak or rust. Made in three sizes.

Swing Spout Oil Measure, 1 Qt. size. List Price	\$2.25
Swing Spout Oil Measure, 2 Qt. size. List Price	3.00
Swing Spout Oil Measure, 1 Gal. size. List Price	3.75

Perfection Heaters

For All Cars

Ingeniously constructed so that the exhaust gases from the motor are passed directly through the radiator and in turn pass out beneath the car. Special flexible metal tubing is provided which is attached to the exhaust line by drilling one small hole in exhaust pipe. No fumes, smoke, or dirt—exactly the right heat—varied at will by the car occupant from the seat. Simple in construction. Nothing to wear out. Guaranteed to give satisfaction under all conditions. Sold complete ready for installation.



TYPE A for Sedans, Limousines, etc. Floor plate fits flush with car floor or carpet. Radiator is compact, requiring but little clearance beneath floor. Heat control integral with Heater. Size of radiator $9\frac{1}{4} \times 13\frac{1}{2}$. Polished aluminum finish.



List Price\$30.00

TYPE AB. Identical with type A excepting that heat control is separate from radiator.

List Price\$30.00

TYPE AP. Identical with Type A but designed for Packard Twin Six car.

List Price\$30.00



TYPE D. Foot Rest Style. For touring cars or Sedans. Heat control lever may be placed at either front or rear seat. Radiator is protected by a perforated metal guard. Length over all 29"; width $3\frac{1}{2}$ "; height $3\frac{1}{2}$ ". Finished in black enamel.

List Price\$25.00

TYPE DD. Similar to Type D but with two heat inlets for installation on cars with double exhaust lines. Finished in enamel.

List Price\$35.00

TYPE DP. Similar to Type D but for installation on Packard Twin Six.

List Price\$30.00



TYPE DWS. Heel board installation for limousines, coupes, etc. Made in several types to provide for differing structural conditions on various cars. Length over all 21"; width $3\frac{1}{2}$ "; height $3\frac{1}{2}$ ". Finished in black enamel.

List Price\$22.50

TYPE DW. Similar in design to DWS, but $7\frac{1}{2}$ " longer, providing greater heat for larger cars. Finished in black enamel.

List Price\$25.00



TYPE G. For sedans, limousines, etc. A flush type heater with integral heat and control. Size $6\frac{3}{4} \times 26$ requiring but little underfloor clearance. Polished aluminum.

List Price\$35.00

TYPE GB. Similar to type G excepting that heat control is separate and may be controlled by driver if desired. Polished aluminum.

List Price\$35.00

TYPE GG. For use on cars equipped with two mufflers and exhaust pipes. Similar to type G excepting that it is equipped with two inlets and two outlets making a connection with each exhaust pipe. Polished aluminum.

List Price\$45.00

STEER WARMS

"Keep the Hands Warm"



A simple, practical device consisting of two neat leather covered grips, one for each hand, which lace on the steering wheel at any convenient place for driving. A set of resistance wires are arranged between two copper plates, producing a grateful warmth with a nominal electric current consumption. Cannot become too hot. Use but half the current required for headlights and should be attached to storage battery, except on Ford cars prior to 1920, where current is obtained directly from magneto. Guaranteed satisfactory.

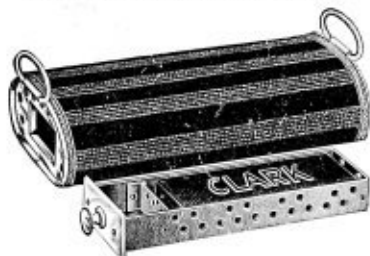
Steer Warms, Regular Type. List Price, per pair\$7.50

Steer Warms, for Ford Cars earlier than 1920. List Price, per pair 5.00

CLARK INDESTRUCTIBLE STEEL HEATERS

The only practical way of keeping warm in cold weather. Made of steel rigidly riveted together and insulated with heavy asbestos-felt, the outside cover being the highest grade carpet or rich plush in a choice of colors. The great advantage in Clark Heaters is the fact that one size of carbon fuel fits all Clark Heaters. A single brick will furnish a good heat for over 12 hours.

No. 5-B CLARK HEATER



Oval Type—End Ventilators

No. 5B, strong, durable, and of good appearance. Covered with Brussels Carpet. Asbestos lining. Light and handy. 12 inches long. Weight 4 lbs.
No. 5-B Clark Heater. List Price, Each.....\$2.60

No. 3-D CLARK HEATER

No. 3-D, same as style 5-B, but 14 inches long. High grade covering. Weight 7 lbs.
No. 3-D Clark Heater. List Price, Each.....\$3.00

No. 5-A CLARK HEATER

No. 5-A. A choice of gray, blue, green velvet carpet covering. A very handsome low-priced heater. 14 inches long. Weight 6 lbs.
No. 5-A Clark Heater. List Price, Each.....\$3.75

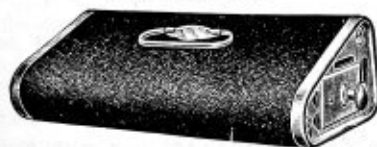
No. 7-C CLARK HEATER
Slanting Top

Drawn steel ends, nicked and polished. Heavy asbestos lining. Adjustable end ventilators. Covered with best quality of green Brussels carpet. 14 inches long. Weight 9 lbs.

No. 7-C Clark Heater. List Price, Each.....\$3.60

No. 7-D CLARK HEATER

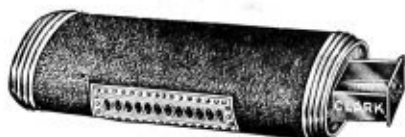
No. 7-D Similar to No. 7-C, but covered with the finest grade of dark green Brussels carpet.
No. 7-D. Clark Heater. List Price, Each.....\$4.00

No. 7-X CLARK HEATER
Slanting Top

Drawn steel ends, heavily nickel plated. Side and end adjustable ventilators, allowing perfect regulation of heat. Thick asbestos lining. Covered with extra quality of Mohair Plush in green, blue or maroon. A beautiful heater. 14 inches long. Weighs 9 lbs.

No. 7-X Clark Heater. List Price, Each.....\$4.00

No. 8-XX CLARK HEATER



The handsomest heater ever built. Covered with rich velvet plush in blue, green, or maroon shades. Extra wide, highly finished, nickel plated flange at ends.

Two fuel drawers enabling the use of two fuel bricks if desired.

Side and end adjustable ventilators. Reinforced steel body. Extra heavy asbestos lining. All outside metal parts quadruple nickel plated. De luxe finish. 24 inches long. Weight 12 lbs.

No. 8-XX Clark Heater. List Price, Each.....\$10.00

No. 8-A CLARK HEATER



A high grade heater for limousines, large touring cars, etc. 20" oval type. Made extra large with two fuel drawers one in each end, enabling the use of two fuel bricks if extra heat is necessary. Handsomely finished in polished nickel plate with end and side heat controls and cover with highest grade plush carpet in grey, blue, green, or maroon. Weight 10 lbs.

No. 8-A Clark Heater. List Price, Each.....\$6.50

CLARK CARBON FUEL



One size fuel fits all Clark Heaters. Pure compressed carbon that will give a strong heat for 12 hours.

Sold in cartons of one dozen Carbon Bricks.

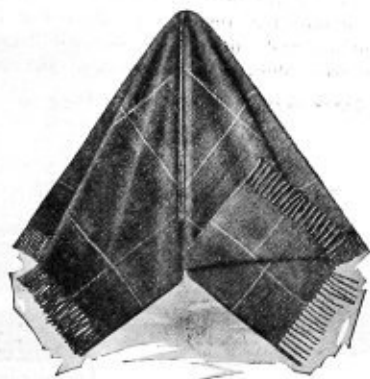
Clark Carbon Fuel Bricks. List Price, per dozen \$1.00

ALL-WOOL ROBES



We carry in stock a large selection of guaranteed high quality motor robes in a wide variety of patterns and weaves both with and without fringe. we particularly recommend all-wool plaid Robes as being the best all-round robe for average service.

All-wool plaid robes are made with fringes and come in the following colors: navy blue, dark brown, scarlet, green, etc.; brown, green, scarlet, blue, etc.; dark green, brown, scarlet, orange, green, white, brown, etc.



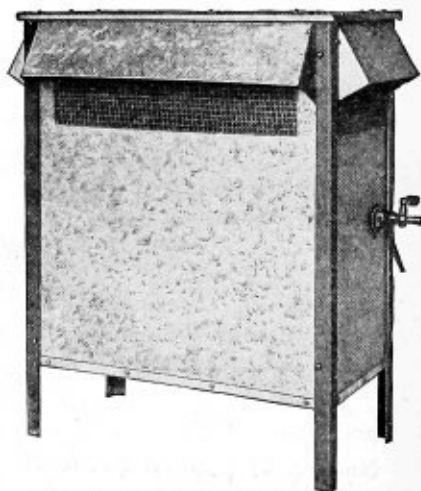
No. A—All-Wool Motor Robe.	List Price, Each, \$12.50
No. B—All-Wool Motor Robe.	List Price, Each, 15.00
No. C—All-Wool Motor Robe.	List Price, Each, 17.50
No. D—All-Wool Motor Robe.	List Price, Each, 20.00
No. H—All-Wool Motor Robe.	List Price, Each, 22.50
No. J—All-Wool Motor Robe.	List Price, Each, 25.00

PLUSH ROBES



We also carry Plush Robes in plain colors, such as dark green, or dark blue on one side. Plush Robes, due to their close weave are more nearly water proof than the wool Robes. Our Robes include the following sizes (measurement of fringe robes being exclusive of fringe): 54"x64", 58"x68", 58"x70" 58"x80", 60"x70.

No. E—Plush Motor Robe.	List Price, Each, \$15.00
No. F—Plush Motor Robe.	List Price, Each, 17.50
No. G—Plush Motor Robe.	List Price, Each, 20.00
No. K—Plush Motor Robe.	List Price, Each, 22.50
No. L—Plush Motor Robe.	List Price, Each, 25.00

MAXWELL GARAGE HEATER
Burns Gas

The only absolutely safe Garage Heater on the market. The manufacturers claim that gasoline may be poured over heater without danger of fire from gasoline fumes. Does not raise insurance rates—in fact is highly recommended by all insurance companies.

Specifications.

Constructed of galvanized iron with black iron fire box in side; Height 27 inches; Width 22 inches; Depth 11 inches. Burner consists of 24% inch lava tips. Very fine mesh (30) brass wire cloth entirely surrounds burners, making heater absolutely safe—yet gives sufficient heat to warm a room 20 ft. x 30 ft., with a 10 ft. ceiling.

Maxwell Garage Heater. List Price.....\$25.00

Radiator and Hood Covers

Every automobile is a live prospect for one of these handsome "glove fitting" Radiator and Hood Covers that are made to exactly fit a particular car. Made of the best quality enameled duck and lined with thick kersey. Neat diamond stitching and quilting prevent unsightly wrinkles. Each Radiator Cover is equipped with buttoned type flap which may be opened or closed to the desired radiator exposure. Do not confuse these with cheap, shoddy covers so frequently advertised as bargains.



CARS CLASSIFIED AS MEDIUM SIZE

All Briscoe, Buicks B-24, 1914, B-25, 1914; C-24, 1915; C-25, 1915; D-34, 1917; D-35, 1917; E-34, 1918; E-35, 1918. All Chevrolet 490 models and F-B 490. Dodge, Dort, Maxwell, all Saxon 4 cylinder.

CARS CLASSIFIED AS LARGE SIZE

All Allen cars, Buicks B-36, 1914; B-37, 1914; C-36, 1915; C-37, 1915. Chevrolets 1914 Baby Grand; 1914 H-2 Royal Mail Roadster; 1915 H-2 Royal Mail Roadster; 1915 H-4 Baby Grand; 1915 H-4 Baby Grand; 1916 H-2 Royal Mail Roadster; 1917 F-5 passenger; 1917 H-2 Royal Mail Roadster; 1918 F-A2 Roadster; 1918 D-5 8 cyl.; 1918 F-A Touring; 1918 D, 4 passenger; 1918 F-B Baby Grand Sedan 5 passenger; F-B Sedan 5 passenger; 1920 F-B Roadster. All Columbia, Grant, Hupmobiles, Interstate, King Kissell, Oakland, Oldsmobile, all Overland except models 85, 6 cyl., 88 Willys 6 cyl. 89 and 86; Paige models 36, 38, 39; Pullman, all Reo previous 1918; all Studebaker 4 cyl.; all Saxon except 4 cyl.

CARS CLASSIFIED AS EX. LARGE SIZE

Apperson, Buicks B-55, 1914; C-54, 1915; C-55, 1915; D-44, 1916; D-45, 1916; D-54, 1916; D-55, 1916; D-46, 1916; D-47, 1916; D-45, 1917; D-44, 1917; D-47, 1917; D-47, 1917; E-49, 1918; E-45, 1918; E-46, 1918; E-44, 1918; E-6-50, 1918; E-47, 1918; H-49, 1919; H-44, 1919; H-46, 1919; H-47, 1919; H-6-50, 1919; H-45, 1919; K-49, 1920; K-44, 1920; K-45, 1920; K-46, 1920; K-47, 1920; K-50, 1920. All Cadillac, Chalmers, Chandler, Cole, Davis, Essex, Haynes, Hudson, Jordan, Jeffrey, Lexington, Liberty, Marmon, Marion, Handly, Mitchell, Nash, Overland; Models 86, 85-6 cyl.; 88 6 cyl.; 89 1918. Packard, Paige models except 36, 38, 39; Pierce-Arrow, Premier, Peerless, Reo, 1918-19-20, Studebaker, 6 cyl.; Stearns-Knight, Stutz, Velie, Built Well, Westcott, White, Winton.



FORD SIZES

Fit 1918-19-20 Fords

Made of the same high quality materials.

No. 103 Ford Radiator Cover Only. Lined but not Quilted. List Price, Each.....	\$2.00
No. 104 Ford Engine Cover Only. Lined but not Quilted. List Price, Each.....	\$3.15
No. 103-104 Ford Radiator and Engine Cover Complete. Lined but not Quilted. List Price, Each.....	\$5.00
No. 17 Ford Radiator Cover Only. Lined and Quilted. List Price, Each.....	\$3.00
No. 18 Ford Engine Cover Only. Lined and Quilted. List Price, Each.....	\$3.25
No. 17-18 Ford Radiator and Engine Cover. Complete. Lined and Quilted. List Price.....	\$6.00

Made of Heavy Enameled Duck, lined with Thick Kersey with Quilted Stitching, as shown in illustration.

PRICES

No. 20 Medium Size Radiator Cover Only. List Price, Each.....	\$3.50
No. 21 Medium Size Engine Cover Only. List Price, Each.....	4.15
No. 20-21 Radiator and Engine Cover Complete. List Price.....	7.50
No. 40 Large Size Radiator Cover Only. List Price, Each.....	4.15
No. 41 Large Size Engine Cover Only. List Price, Each.....	5.00
No. 40-41 Radiator and Engine Cover Complete. List Price.....	\$9.00
No. 60 Extra Large Size Radiator Cover Only. List Price, Each.....	5.25
No. 61 Extra Large Size Engine Cover Only. List Price, Each.....	6.00
No. 60-61 Radiator and Engine Cover Complete. List Price.....	11.00
No. 80 Medium Size (1½ to 2 ton truck) Radiator Cover Only. List Price, Each.....	5.75
No. 90 Large Size (for large trucks) Radiator Cover Only. List Price, Each.....	7.00

Gordon Jiffy Cushion Slips—Washable



Patented

For Open and Enclosed Cars

They cover the automobile seat cushions you sit on and lean back against.

Washable—Durable

They are as easy to wash as a towel—not bulky or hard to handle.

Wash them as often as you like. Have one set on the car while the other is in the wash, if you wish.

Strong, durable materials, carefully tailored and stoutly sewed. They cover the upholstery where it gets the most wear and they're always more comfortable than uncovered cushions.

Standardized Stock Sizes

They are used on both open and enclosed cars and are made in one-piece in standardized stock sizes to fit any width and style of seat on all makes of cars. Each size fits a number of standard makes—12 sizes fit 95 per cent. of all American cars.

Anyone Can Put Them On

Jiffy Cushion Slips are put on with button-headed tacks as easy to drive as any tack. It is only a few minutes' task to put them on the first time. Anyone can do it.

Jiffy Cushion Slips are a real boon to both dealer and motorist—they need no service from the dealer and no service charges for the buyer.

And They Are Inexpensive—The price puts them within the reach of every motorist. When such cleanliness and such style may be had so cheaply it is no wonder that Gordon Jiffy Cushion Slips have come to be considered a necessity through the saving in personal laundry and dry cleaning bills alone. Motorists are buying them as soon as they see them and hear the price.

The Slips come packed one in a neat substantial box, plainly labeled with the size, catalog number and price ready to hand to your customer.

For Ford Cars

A (These two sizes are for use exclusively on B / Ford Touring and Runabout models, all years. Size A for front; size B for rear of Touring cars. Size A is also used on Runabouts. For Ford Sedans use M for front and F for rear. For Ford Coupelet use size G.

Materials, Sizes and Prices

Material Nos.	For Ford Touring Sizes A and B	For All Other Cars Sizes C-D-E-F-G-H-K-L	Individual Front Seats Sizes J and M
500	\$4.00	\$4.75	\$3.00
Tan and brown $\frac{1}{2}$ " stripes each fine white stripe between.			
505	4.75	5.75	3.50
Tan, alternating blue and brown stripes $\frac{3}{8}$ " apart.			
506	4.75	5.75	3.50
Tan, white and black stripe mixture.			
545	5.75	7.00	4.00
Tan with cream stripes 1" apart and fine parallel green stripes between.			
547	5.75	7.00	4.00
Black and grey stripes alternating $\frac{1}{8}$ " wide.			
548	5.75	7.00	4.00
Black with white mixture, parallel white pin stripes 1" apart.			
549	5.75	7.00	4.00
Tan with black mixture, parallel white pin stripes $\frac{3}{8}$ " apart.			
550	5.75	7.00	4.00
Black and grey stripes alternating $\frac{1}{8}$ " wide.			
551	5.75	7.00	4.00
Tan and blue stripes alternating $\frac{3}{8}$ " wide.			
552	5.75	7.00	4.00
Tan and grey mixture, hair line stripes $\frac{3}{8}$ " apart.			
556	5.75	7.00	4.00
Tan and brown striped $\frac{3}{8}$ " each. Brown equally divided by two white pencil line stripes.			
560	5.75	7.00	4.00
Linen shade, pencil stripes 1" apart, tripple white stripe between.			
511	5.90	7.25	4.25
Dark and light tan in $\frac{3}{8}$ " equal width stripes.			
520	5.90	7.25	4.25
Tan body with blue stripes $\frac{3}{8}$ " apart.			
523	5.90	7.25	4.25
Tan body, green stripes $\frac{3}{8}$ " apart.			
525	5.90	7.25	4.25
Tan body, brown stripes $\frac{3}{8}$ " apart.			
553	5.90	7.25	4.25
Tan mixture with $\frac{1}{8}$ " brown stripes $\frac{3}{8}$ " apart.			
554	5.90	7.25	4.25
Grey mixture with green pencil stripes $\frac{3}{8}$ " apart.			
555	5.90	7.25	4.25
Grey and tan with blue and white stripes 2" apart and tripple blue stripes between.			
561	5.90	7.25	4.25
Pear black ground with alternating groups of blue and tan and white and tan stripes.			
562	5.90	7.25	4.25
Tan with faint mixture of white and groups of green pin stripes $\frac{1}{4}$ " apart.			

How to Secure Gordon Jiffy Cushion Slips

Measure the width of seat across the back half way down from the top and order sizes as below. An alphabetical list of cars is packed with each Slip giving sizes needed for all cars.

For Rear Seat Measurement:	For Front Seat Measurement:
39 to 41 inches, use size... D	34 to 37 inches, use size... C
42 to 44 inches, use size... E	38 to 41 inches, use size... E
45 to 47 inches, use size... L	42 to 44 inches, use size... G
47 to 50 inches, use size... H	45 to 47 inches, use size... K

Individual Front Seat

For all individual front seats, except Ford Sedan, use size... J





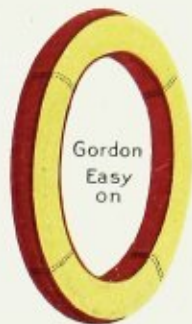
GORDON
JIFFY CUSHION SLIPS
 YOU CAN WASH 'EM
 PATENTED MAY 6, 1919.

REMOVABLE
 AND
 WASHABLE

Cover Dirty Cushions
 Prevent Soiled Clothes

ANYONE CAN
 PUT THEM ON

Made in
 Twelve Stock Sizes



In the tub—on the line—Back
 on the car by half-past Nine

Cushion Slip, Auto Slip and Seat Cover Materials



500



505

2005



506

2006



523

2023

1123



511



562

2062

1162



554

2054

1154



545

2045

1145



1000



553

2053

1153



561

2061

1161



551

2051

1151



549

2049

1149



547

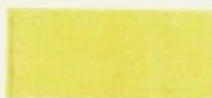
2047

1147



1061

Tire Cover Materials



135



140



142



138



131



153



139

Made also in solid
 Black or White or any
 Combination of colors

Complete explanations and descriptions on back of this page

Different Styles of Gordon Covers in Which These Materials are used

All materials used for Jiffy Cushion Slips and the Auto Slips are washable and cold water shrunk before tailoring. Colors are dyed in the yarn before weaving.

Gordon Jiffy Cushion Slips

Removable, washable, inexpensive. Made in one piece to cover the cushions you sit on and lean back against. Made in 12 standardized stock sizes suitable for 95 per cent. of all American cars. Each size is used for a number of different cars—open and enclosed.

Gordon Auto Slips

Removable, washable, inexpensive, **tailored-to-fit** covers for the entire upholstery of the car, cushions, arm rests, sides, doors and dash pieces. Specially tailored for each individual car.

Gordon Easy-On Seat Covers

Tailored-to-fit each individual car. Cover the upholstery complete. Put on as a more permanent attachment than the washable Jiffy Cushion Slips and Auto Slips. Material Nos. 1000, 1050, 1060 and 1061 are double texture, rubberized materials. All other seat cover numbers are single texture.

NOTE: Where more than one number appears under the reproduction of any material on the face of this sheet, the first number is the Jiffy Cushion Slip number, the second is the Auto Slip number and the third is the Seat Cover number. All numbers in the five hundreds designate Jiffy Cushion Slips. All numbers in the two thousands designate Auto Slips. All numbers in ten and eleven hundreds designate Seat Covers.

Tire Cover Color Combinations

In addition to solid color tire Covers any two or three color combinations will be furnished. Also black or any colored Tire Cover can be furnished with two white stripes on the tread or with white piping running around the edges of the tread band.

Advertising Tire Covers. Inquiries for prices on Tire Covers with your advertisement painted on are invited.

Gordon Easy-on Tire Covers

Protect Spare Tires from Light, Dirt, Chafing, Oil and Dampness



Plain Black

Nos. 1221 and 1231, Drill
Nos. 1220 and 1230, Duck



Black and White

Nos. 1224 and 1234, Drill
Nos. 1222 and 1232, Duck



Black, 2 White Bands

Nos. 1227 and 1237, Drill
Nos. 1227 and 1237, Duck



Black, White Piping

Nos. 1228 and 1238, Drill
Nos. 1228 and 1238, Duck

No. 1221 Style Gordon Easy-On

For tires on special rim-carriers, also for use on wire wheels. Use the same size for fabric and cord tires with either smooth or non-skid treads.

It has welted flanges on each side to fit snugly over the edges of the rim. Ball and Socket snap buttons of extra heavy design are used on this cover and it is provided with drain grommets.

Sizes	1221 Type				Colors			
	Drill		Duck					
	1221	1224	1227	1228	1220	1222	1227	1237
30x3	3.10	3.25	3.65	3.60	3.85	4.35	5.10	
30x3½	3.10	3.25	3.65	3.60	3.85	4.35	5.10	
31x4	3.30	3.45	3.85	3.80	4.05	4.55	5.30	
32x3½	3.30	3.45	3.85	3.80	4.05	4.55	5.30	
32x4	3.40	3.55	3.95	3.90	4.15	4.65	5.40	
33x4	3.50	3.65	4.05	4.00	4.25	4.75	5.50	
34x4	3.60	3.75	4.15	4.10	4.35	4.85	5.60	
34x4½	3.70	3.85	4.25	4.20	4.45	4.95	5.70	
35x4½	3.80	3.95	4.35	4.30	4.55	5.05	5.80	
35x5	3.90	4.05	4.45	4.40	4.65	5.15	5.90	
36x4½	3.90	4.05	4.45	4.40	4.65	5.15	5.90	
37x5	4.00	4.15	4.60	4.50	4.75	5.25	6.00	
Over 37"	4.50	4.65	5.05	5.00	5.25	5.50	6.50	

Nos. 1221, 1224, 1227, 1228, 1231, 1234, 1237 and 1238 are made of Gordon Drill.

Nos. 1220, 1222, 1227, 1228, 1223, 1230, 1232, 1337 and 1338 are made of Gordon Duck.

Nos. 1221, 1220, 1231 and 1230 are solid black.

No. 1231 Style Gordon Easy-On

For tires on special rear rim carriers. Also for use on wire wheels. Use the same size for fabric and cord tires with either smooth or non-skid treads.

This Cover covers the tread and sides of the tire only and is a very neat-fitting cover.

Fastened with Ball and Socket Snap Buttons and provided with drain grommets.

1231 Type	Colors			
	Drill		Duck	
	1231	1234	1237	1238
2.30	2.50	2.90	2.70	2.90
2.30	2.50	2.90	2.70	2.90
2.30	2.50	2.90	2.70	2.90
2.40	2.60	3.00	2.80	3.00
2.40	2.60	3.00	2.80	3.00
2.50	2.70	3.10	2.90	3.10
2.60	2.80	3.20	3.00	3.20
2.70	2.90	3.30	3.10	3.30
2.80	3.05	3.45	3.30	3.50
2.90	3.15	3.55	3.40	3.60
3.00	3.25	3.65	3.50	3.70
3.00	3.25	3.65	3.50	3.70
3.20	3.50	3.90	3.70	3.90
3.70	4.00	4.40	4.30	4.50

Nos. 1224, 1222, 1234 and 1232 have black sides and white treads.

Nos. 1227, 1227, 1237 and 1337 have black sides with two white bands on tread.

Nos. 1228, 1228, 1238 and 1338 are black with white piping in tread band seams.

Nos. 1223 and 1233 for tire covers made in colors.

Gordon Easy-On Spiral Spring Covers

No. 1292 Spiral Spring Cover

Fits Tires on Demountable rims.

This is a continuous casing that slips on the tire.

One side of the cover and then the other side slips on the tire and is held with SPIRAL SPRINGS, smooth and perfect fitting.

Springs are endless, completely encircling tire, drawing or giving uniformly as required.

Nos. 1291, 1291½ and 1393 are the same construction as No. 1292, described above, but are specially reinforced for use on tire carriers used on Cadillacs and Packards.

Special For Ford Cars

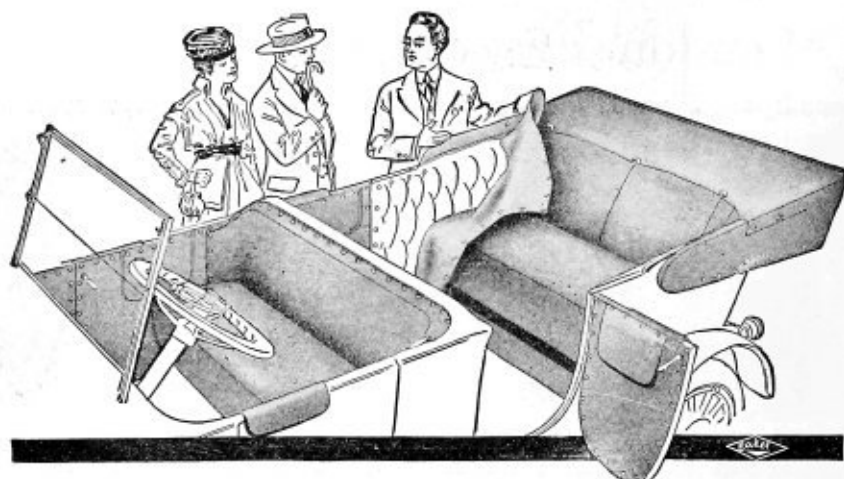
No. 1296—Spiral Spring, black, 30x3 and 30x3½ only	\$3.85
No. 5095—Flat Spring, black, 30x3 and 30x3½ only	2.75

Sizes	1292	1290	1293
	Blk. Drill	Blk. Duck	Colors
30x3	4.10	4.70	6.45
30x3½	4.10	4.70	6.45
31x4	4.30	4.90	6.55
32x3½	4.30	4.90	6.55
32x4	4.40	5.15	6.70
33x4	4.50	5.25	6.80
34x4	4.60	5.35	6.90
34x4½	4.80	5.55	7.20
35x4½	4.90	5.65	7.30
35x5	5.10	5.85	7.50
36x4½	5.00	5.75	7.40
37x5	5.20	5.95	7.70
Over 37"	5.70	6.45	8.20

No. 1291—Black Drill, sizes 35x5, 36x4½, 37x5

No. 1291½—Black Duck, sizes 35x5, 36x4½, 37x5

No. 1393—Colors, sizes 35x5, 36x4½, 37x5



BAKER SEAT COVERS

Seat Covers are no more regarded as an expense or as an additional investment, but rather as a part of your insurance which is purchased with the car for your protection. The expense is small when you consider that you can actually get in addition to continual comfort, while using them, much more for your car when you sell or trade it in. We know of hundreds of instances where cars equipped with Seat Covers since their purchase commanded two and even three times more than the cost of the Seat Covers, above the price of a car whose upholstery had not received this protection. Seat Covers are a paying investment.

A set of Baker Seat Covers consists of Covers for all cushions, backs, doors, panels, sides, including arm rests and kick pad. Top Boots or Dust Hoods are extra, and are charged for separately.

Regular Trimmings.

All "Baker" Seat Covers are trimmed in black artificial leather binding with an in-seam welt of superior quality. These bindings and welts are made especially strong and will wear as long or longer than the covers themselves.

In order to simplify the listing of Seat Covers, we have decided to place all cars in four different classes with the exception of Fords, which are in a class by themselves.

CLASS I—Contains all small 2, 4 and 5-passenger open cars.

CLASS II—Contains all medium sized 2, 4, 5 and 7-passenger cars, also small 5-passenger Sedans.

CLASS III—Contains all large 2, 3, 4, 5 and 7-passenger open cars, also large 5-passenger Sedans.

CLASS IV—Contains all 3 and 4-passenger Coupes or Cabriolets and large 7-passenger Sedans.

When ordering, however, it will be necessary for you to give us complete information relative to the car you want Seat Covers for. Be sure to state name, model, year and carrying capacity, also any other information you think will assist us in taking care of your order properly. If unable to determine what class your car is in, send us the order, and we'll make the decision and advise you accordingly.

Baker Seat Covers are made out of a variety of materials, admirably suited for the purpose which are numbered and described as follows:

SPECIFICATIONS OF BAKER SEAT COVER FABRICS.

- | | |
|--------|---|
| A-22 | DRAB JEANS DOUBLE TEXTURE RUBBERIZED, very close, even weave. Is water proof—not washable with gasoline, but can be washed with soap and water. |
| A-10 | SHELTER CLOTH. An exceptionally strong material, made from heavy double twisted thread; army construction, very serviceable. Tan color, fast dye. |
| A-20 | ALL OF THESE are good, stout, single texture, closely woven fabrics. Distinctive variety of patterns, both stripe and plain. Being single texture, are washable with either gasoline or soap and water. Fast colors. |
| B-500 | |
| B-65 | |
| B-90 | GREY WHIPCORD DOUBLE TEXTURE, to match lining of such cars as HUDSON SUPER SIX and CHALMERS. Being double texture and rubberized is water proof, but not washable with gasoline, but can be washed with soap and water. |
| C-3 | TIGHTLY WOVEN DUCKS, single texture, a very even and superior construction. Washable with either soap and water or gasoline; fast colors. |
| C-7165 | A TIGHTLY WOVEN DUCK, single texture, dyed in yarn, washable with gasoline or soap and water. |
| C-700 | |
| C-1000 | IMITATION LINEN seat cover goods; especially adapted for summer wear. Very attractive variety of patterns. Washable with soap and water or gasoline. |
| C-1002 | |
| C-210 | GENUINE BLACK SILK MOHAIR, fine quality. Makes up into BEAUTIFUL SEAT COVERS. Double texture, rubberized, THEREFORE, absolutely water proof. |
| D-503 | GENUINE "LAIDLAW" seat cover materials of EXCELLENT QUALITY, constructed of fine, tightly twisted thread; very closely and evenly woven. FAST DYED—Washable with either gasoline or soap and water. |
| D-600 | |

FAC-SIMILE REPRODUCTIONS OF LOCKWOOD SEAT COVER FABRICS.



A-22



B-65



A-20



B-500



C-1000



C-1002



C-210



C-7165



C-3



C-100



D-503



D-610



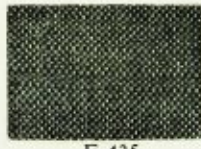
D-606



D-600



E-555



E-425



D-620



D-630



E-411



E-4113



E-404



E-4033



E-4073



E-4183



F-5006



F-5010

These two linens are reproduced $\frac{1}{4}$ -size to show more of pattern.
We also have a material same as F-5006 with green pattern which is called F-5007.
Clipping samples of any of the above will be gladly furnished on request to demonstrate quality of the fabrics.

SPECIFICATIONS OF SEAT COVER FABRICS

For your consideration, we offer you fabrics in the "LOCKWOOD" line of seat covers, whether linens or single and double textures, that are **admirably suited** for seat cover service and manufactured especially for that purpose.

The dyes used in the manufacture of these materials are the best obtainable and are guaranteed to be fast. On close inspection of these fabrics, you will find that **EVERY ONE** of them is very **CLOSELY WOVEN** of tightly twisted thread; a construction which renders a **CLOTH READY FOR HARD WEAR, CONTINUED SERVICE, REPEATED LAUNDERING**, to which all seat covers are subjected.

- | | |
|--------|---|
| A-22 | DRAB JEANS, DOUBLE TEXTURE, RUBBERIZED, very close, even weave. Is water proof—not washable with gasoline, but can be washed with soap and water. |
| A-10 | SHELTER CLOTH. An exceptionally strong material, made from heavy double twisted thread; army construction, very serviceable. Tan color, fast dye. |
| B-90 | GREY WHIPCORD, DOUBLE TEXTURE, to match lining of such cars as HUDSON SUPER SIX and CHALMERS. Being double texture and rubberized, is water proof, but not washable with gasoline, but can be washed with soap and water. |
| A-20 | ALL OF THESE are good, stout, single texture, closely woven fabrics. Dis- |
| B-500 | inctive variety of patterns, both stripe and plain. Being single texture, are wash- |
| B-65 | able with either gasoline or soap and water. Fast colors. |
| C-3 | TIGHTLY WOVEN DUCKS, single texture, a very even and superior construc- |
| C-7165 | tion. Washable with either soap and water or gasoline. Fast colors. |
| C-100 | A TIGHTLY WOVEN DUCK, single texture, dyed in yarn, washable with gasoline or soap and water. |
| C-1000 | IMITATION LINEN, seat cover goods; especially adapted for summer wear; |
| C-1002 | very attractive variety of patterns. Washable with soap and water or gasoline. |
| C-210 | GENUINE BLACK SILK MOHAIR, fine quality. Makes up into BEAUTIFUL SEAT COVERS. Double texture, rubberized, THEREFORE absolutely water proof. |
| D-503 | GENUINE "LAIDLAW" seat cover materials of EXCELLENT QUALITY |
| D-600 | Constructed of fine, tightly twisted thread; very closely and evenly woven. FAST DYED—washable with either gasoline or soap and water. |
| D-606 | GENUINE "LAIDLAW" ONYXCLOTH. Is a remarkable material. It is washable with either gasoline or soap and water. Water proof because being OIL BACKED. Excellent wearing, smooth appearing, fast dye. |
| D-610 | THREE EXCEPTIONALLY HIGH QUALITY SEAT COVER FABRICS |
| D-620 | made from SELECTED NORTH GEORGIA COTTON, sulphur dyed in the |
| D-630 | yarn and especially adapted for seat cover purposes. |
| E-425 | SILVER SILK MOHAIR FABRIC, double texture, rubberized, water proof. This is a very popular material, which is meeting with much favor for seat cover purposes. |
| E-555 | VERY HEAVY, dark grey speckled duck. One of "LAIDLAW'S" BEST MATERIALS. Very durable; fast dyed, washable with soap and water or gasoline. Practically water proof, although not coated. |
| E-404 | E-4033 FAMOUS "LAIDLAW" LIMOTEX, beautifully constructed seat cover materials, |
| E-411 | E-4073 with different COLORED GENUINE SILK STRIPES. Very neat appearing |
| E-4113 | E-4183 and very durable. Washable with both gasoline, soap and water |
| F-5006 | HANDSOME HEAVY LINEN seat cover material, with GENUINE WOVEN |
| F-5007 | SILK DESIGNS. These are especially desirable for closed car covers and for |
| F-5010 | electrics. They are the preferred materials for this class of work. |

D-606	GENUINE "LAIDLAW" ONYXCLOTH. Is a remarkable material. It is washable with either gasoline or soap and water. Water proof, because being OIL BACKED. Excellent wearing, smooth appearing, fast dye.
D-610	THREE EXCEPTIONALLY HIGH QUALITY SEAT COVER FABRICS made from selected north Georgia Cotton, sulphur dyed in the yarn and especially adapted for seat cover purposes.
D-620	
D-630	
E-425	SILVER SILK MOHAIR FABRIC, double texture rubberized water proof. This is a very popular material which is meeting with favor for seat cover purposes.
E-555	VERY HEAVY dark grey speckled duck. One of "LAIDLAW'S" BEST MATERIALS. Very durable; fast dyed, washable with soap and water or gasoline. Practically water-proof, although not coated.
E-404	FAMOUS "LAIDLAW" LIMOTEX, beautifully constructed seat cover materials with different COLORED GENUINE SILK STRIPES. Very neat appearing and very durable.
E-411	Washable with both gasoline, soap and water.
E-413	
F-5006	HANDSOME HEAVY LINEN seat cover material with GENUINE WOVEN SILK DESIGNS. These are especially desirable for closed car covers and for electricies. They are the preferred materials for this class of work.
F-5007	
F-5010	

The different cars which appear in the classes heretofore referred to are as follows:

CLASS ONE.

Small 2, 4 and 5-P. Cars (except Fords).

Briscoe 24 1917-20	Dodge 1916-20	Metz 1918-19
Buick D and E 34-35 1917-18	Dort 1916-20	Overland 75, 90 and New Light
Chevrolet 490 1916-20	Maxwell 1918-19	Four

CLASS TWO.

Medium sized 2, 4, 5 and 7-P. open cars, also small 5-P. Sedans.

Allen 1916-20	Crow Elkhart 1917-20	Metz
Apperson 2, 4 and 5-P. 1916-20	Elcar 1918-20	Oakland Sedan 1918-20
Auburn 1917-20	Elgin 1917-20	Oldsmobile 2, 4 and 5-P. 1914-20
Briscoe 2 and 5-P. 1915-16	Empire 1918-20	Overland 2 and 5-P. 1915-20
Briscoe 2 and 5-P. Model 38 1917	Essex 1919-20	(Except those in Class 1)
Buick C-24 and C-25 1915	Grant 1917-20	Pullman 1918
Buick 44 and 45 Models 1916-20	Hupmobile 1914-20	Saxon 1916-20
Chalmers 2 and 5-P. 1916-20	Lexington 2, 4, 5-P. 1916-20	Scripps-Booth 1916-20
Chevrolet R. Mail and B. Grand 1916-20	Liberty 1917-20	Studebaker 2, 3 and 5-P. 1914-20
	Maxwell Sedan 1918-20	

CLASS THREE.

Large 2, 3, 4, 5 and 7-P. open cars, also large 5-P. Sedans and Electricies.

Apperson 7-P. Tr. and 5-P. Sedan 1917-20	Jeffrey 1916-17	Patterson 1917-19
Baker Electricies R. & L. 1918-20	Lexington 7-P. Touring 1918-20	Peerless 1917-20
Cadillac 1915-20	Lexington 5-P. Sedans 1918-20	Premier 1917-20
Case 1918-20	Jordan 1918-20	Reo 1915-20
Chalmers 7-P. 1916-20	King 1917-20	Roamer 1919-20
Chandler 1916-20	King 1917-20	Stearns-Knight 1915-20
Cole 1917-20	Marmion 1917-20	Studebaker 7-P. Tr. 1916-20
Detroit Electricies	Nash 1918-20	Velie 1918-20
Franklin 1917-20	National 1917-20	Willys-Knight 1918-20
Haynes 1916-20	Oldsmobile 7-P. 1917-20	Willys-Knight 5-P. Sedan 1918
Hudson 1915-20	Overland 7-P. 1915-20	Westcott 1918-20
Jackson 2, 4 and 5-P. 1918	Overland 5-P. Sedans 1917-20	Westcott 5-P. Sedan 1918-20
	Paige 1916-20	

CLASS FOUR.

This class consists of all 3-Pass. Coupes, 4-Pass. Coupes or Cabriolets and 7-Pass Sedans. It is not necessary to enumerate the various models. Simply refer to Class Four prices on opposite page if interested in Seat Covers for cars of this description.

FORD CARS.

Ford Cars are in a class by themselves. Complete price list follows those shown herewith for Class Four models.

BAKER SEAT COVER PRICES

CLASS ONE.

	Materials (See Previous Descriptions.)					
	A-22	B-90	C-3	D-600-6	E-404-11	F-5006
	A-20	B-65	C-1000-2	D-503	E-4113-83	F-5010
	A-19	B-500	C-7165	D-610	E-4073-33	F-5007
			C-100	D-620	E-555	
			C-210	D-630	E-425	
2-Pass. (small cars except Fords).....	\$14.10	\$15.45	\$17.20	\$18.10	\$21.05	\$34.95
4 and 5-Pass. (small cars except Fords).....	35.45	38.95	43.65	46.05	53.85	91.00

CLASS TWO.

2-Pass. (medium size).....	\$18.80	\$20.45	\$22.70	\$23.85	\$27.60	\$45.30
4 and 5-Pass. (medium size).....	41.60	45.50	50.75	53.40	57.85	103.40
7-Pass. (small).....	52.20	57.00	63.40	66.60	77.15	127.30
5-Pass. Sedan (small).....	52.20	57.00	63.40	66.60	77.15	127.30

CLASS THREE.

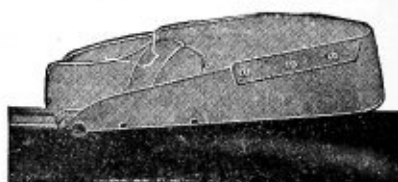
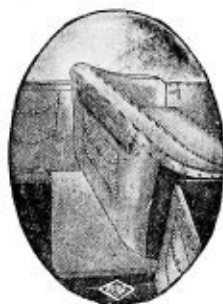
2 and 3-Pass. (large size).....	\$23.70	\$25.40	\$29.60	\$31.30	\$37.00	\$63.45
4 and 5-Pass. (large size).....	46.25	50.60	56.45	60.20	69.00	114.70
7-Pass. Tr. (large size).....	58.65	64.20	71.60	75.30	87.50	145.65
5-Pass. Sedan (large).....	58.65	64.20	71.60	75.30	87.50	145.65

CLASS FOUR.

3-Pass. Coupe.....	\$28.00	\$30.80	\$34.50	\$36.40	\$42.55	\$71.90
4-Pass. Coupe.....	33.60	36.75	41.00	43.10	50.10	83.30
7-Pass. Sedan (large size).....	63.55	71.30	79.85	84.10	98.20	169.60

FORDS ONLY

2-Pass. Roadster.....	\$10.35	\$12.30	\$15.00	\$15.90	\$19.20	\$32.45
5-Pass. Touring.....	23.35	25.30	32.15	33.85	39.50	66.60
3-Pass. Coupe.....	20.30	22.00	27.95	29.45	34.35	57.94
5-Pass. Sedan.....	34.10	36.95	46.95	49.40	57.65	97.25



Dust Hoods and Kick Pads

(When ordered separately.)

	A	B	C	D	E	F
Ford Dust Hood (Reg. Style).....	\$ 9.15	\$10.10	\$11.25	\$11.80	\$13.85	\$23.00
Ford Dust Hood (Sleeve Style).....	11.66	12.80	14.30	15.00	17.50	29.15
All other cars (Reg. Style).....	12.40	13.95	15.65	16.05	18.30	29.35
All other cars (Sleeve Style).....	15.50	17.45	19.55	20.05	22.90	36.70

Kick Pad is included with all 4, 5 and 7-Passenger Seat Covers. If not wanted, deduct 10% from Seat Cover List.

Skeleton Seat Covers

A neat idea in Seat Cover construction is a Seat Cover made to cover only the cushions and backs and sides of the seats, but not the doors, cowl or Kick Pad. The back of the seat comes around even with the knees at each side. Protects all parts of the upholstery which is subject to wear. Easily taken off and re-installed. When ordering, use regular Seat Cover prices, but deduct special discount as follows:

For 2 or 3-pass. cars, deduct 20% from regular price.

For all other cars, deduct 25% from regular price.

BUCKEYE CLEANSER

Pure Linseed Oil Soap



A perfect neutral soap made of pure linseed oil and entirely free from alkali or other paint destroying chemicals. May be used on the most highly polished surfaces without the slightest injury to varnish or paint. Lathers freely in cold or hard water and quickly removes dirt, grease, or mud. In fact, the chemical ingredients of this soap add to the life of the paint and tend to prevent cracking or dulling the high lustre. If used properly Buckeye Cleanser Soap will double the life of the paint. Packed in 5, 10, and 25-lb. pails, also in half-barrels or barrels.

5 and 10-lb. Pails. List Price, per lb.....	\$.35
25-lb. Pails. List Price, per lb.....	.30
1/2 bbls. List Price, per lb.....	.25
Barrels. List Price, per lb.....	.24

LIBERTY GARAGE FLOOR CLEANER



Effectually cleans all dirty, greasy cement or wood floors. Simply throw a small quantity on the floor and brush out the dirt and other debris. Packed in 5-lb. paste-board cartons.

List Price, per carton.....	\$1.00
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UZUM—Waterless Soap

Something entirely new. Simply use a small quantity of Uzum, rub hands thoroughly and all dirt or grease instantly comes off. Works with or without water equally well. Good for cleaning mohair tops, etc. One size only, 9 oz. can.



Uzum Waterless Soap. List Price, per can.....	\$.15
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PYRENE SAFETY CLEANER



Cannot possibly burn or explode. Cleans cloth, dresses, gloves, etc., and removes grease, oil, and tar spots without injury to the material. Far safer than gasoline, as it is an inflammable material. Carried in three sizes.

1 Qt. Cans. List Price, Each.....	\$1.50
8 Oz. Bottles. List Price, Each.....	.50
4 Oz. Bottles. List Price, Each.....	.25

BLUE RIBBON METAL POLISH

The best known Metal Polish on the market. Equally good for brass, copper, nickel, silver, or any highly finished metal surface. Cannot harm the body, finish or injure the hands. Blue Ribbon Polish has been recognized for years as the best liquid polish made—and the easiest selling. Carried in the following sized cans:



1/2 Pt. Can. List Price, Each.....	\$.30
1 Pt. Can. List Price, Each.....	.50
1 Qt. Can. List Price, Each.....	.80
1/2 Gal. Can. List Price, Each.....	1.00
1 Gal. Can. List Price, Each.....	1.75

NOXALL POLISH



A fine body polish that restores the original lustre to any highly polished surface. Contains no grease or gum, therefore cannot collect dust. Removes all grease, tar, wax coatings, leaving a dry, smooth high lustre. Made in the following sizes.

1/2 Pt. Bottles. List Price.....	\$.50
1 Pt. Bottles. List Price.....	1.00
1 Qt. Bottles. List Price.....	1.50

WAXIT AUTO POLISH



A well known Body Polish that cleans and polishes in one application. No rubbing, used like ordinary soap and water. Equally good for highly finished body, etc., surfaces, cushions, leather, etc., tops. Guaranteed not to injure the finest finish. Nationally advertised, making it a quick seller. Attractive show case display furnished free of charge with twelve bottles \$3.35 size.

Size	Container	No. in case	List Price Each
6 oz.	Glass only	12	\$0.35
14 oz.	Glass only	12	0.60
1 qt.	Tin or Glass	6	1.25
1/2 gal.	Tins	6	2.00
1 gal.	Tins	6	3.50

JOHNSON'S PREPARED WAX LIQUID

A high grade polish for use on any finely finished painted surface. Preserves and protects the varnish or paint in addition to renewing original lustre. Being water proof, it sheds water and makes frequent washings unnecessary.



List Price, per qt.	\$1.40
List Price, per pt.	.75
List Price, per 1/2 pt.	.50

JOHNSON'S PREPARED WAX PASTE



List Price, 1 pt. size	\$.75
List Price, 5 oz. size	.35

Put up in convenient cans containing 5 oz. and 1 pt. net. While the liquid Johnson's Prepared Wax is easier to apply than the paste for painted surfaces in very bad condition, the paste will give better results. 5 oz. size packed in attractive counter display cartons containing one dozen cans.

BROOKBANK'S AUTO KLEAN

A combined polish and cleaner. Auto Klean is a finely pulverized white powder which dissolves in water and is used much like ordinary soap. Contains no alkali, acid, wax, grease, grit, or oil and is the only polish which is guaranteed not to attract dust or show rain spots. Easily and quickly removes mud, road-tar, grease, or stains without injury to paint or varnish. Guaranteed to renew the original lustre to any painted or varnish surface or your money refunded.

Packed in 1 lb. containers.
List Price\$1.50



LIBERTY TAR AND OIL REMOVER



Dissolves and removes dirt, grease, scum, oil, road-tar, or stains. Easily and quickly cleans engines and under parts of fenders, chassis, wheels, running gear, etc., removing all discoloration. Economical and easy to use. A harmless non-explosive orange colored liquid.

1 Qt. Cans. List Price\$.90

JOHNSON'S CLEANER



Easily and quickly removes all stains, discolorations, road-tar, oil, or grease from the most highly varnished surface without injury to the finest finish. Contains no grit or acid so cannot scratch. After using Johnson's Cleaner a coat of wax polish will greatly improve the looks of any car even if paint is in poorest condition. 1/2 lb. size is packed in attractive counter display cartons containing one dozen cans.

List Price, 1/2 lb. size	\$.35
List Price, 1 lb. size	.50

LIBERTY TOP RENEWER DYE

For Leather, Pantasote, Etc.



Makes old tops look like new. Gives a handsome indelible black satin finish that dyes and water-proofs leather, pantasote, imitation leather, etc., tops. It is also highly recommended for re-finishings cushions. One coat only needed. Easily applied with brush; dries over night. Cannot injure finish in any

way. Large top requires one quart and small top one pint.

1 Pt. Can. List Price, Each.....\$1.00

1 Qt. Can. List Price, Each.....1.85

LIBERTY TOP RENEWER DYE

For Mohair, Etc.

A new top for a few cents. One coat applied with ordinary paint brush renews and water-proofs mohair tops with an indelible Dye. Easily applied, dries over night. Guaranteed not to give that "home-finished" appearance. One quart for large tops, one pint for small tops.



1 Pt. Can. List Price, Each.....\$1.00

1 Qt. Can. List Price, Each.....1.85

JOHNSON'S BLACK-LAC

For Imitation Leather, Leather, or Mohair Tops



Gives a beautiful like-new appearance to old, "rusty looking" tops, cushions, etc. Also frequently used for re-touching metal parts. One coat only required for a permanent finish. Dries in fifteen minutes.

1/2 Pt. Can. List Price, Each.....\$.75

1 Pt. Can. List Price, Each.....1.25

1 Qt. Can. List Price, Each.....2.00

NORWESCO LEATHER AND UPHOLSTERY DRESSING

An elastic dressing for leather and imitation leather tops or cushions. Dries quickly with a flat black finish of great durability. Will not rub off or discolor clothing.



Pt. Cans. List Price, Each.....\$.85

Qt. Cans. List Price, Each.....1.50

NORWESCO TOP DRESSING



For mohair tops and top lining. One coat renews the appearance of old faded mohair tops and top linings, at the same time water-proofing them. Gives a rich black silky sheen and removes all water stains.

Pt. Cans. List Price, Each.....\$.75

Qt. Cans. List Price, Each.....1.35

LIBERTY REPAIR SHOP LUSTRE BLACK

An instantly drying black Enamel that sets with a high jet-black lasting finish and sticks to any surface. Covers up cracked, chipped, or marred places in the finish of any car. Makes a repair job look "worth the price."



1/2 Pt. Can. List Price, Each.....\$.60

1 Pt. Can. List Price, Each.....1.00

1 Qt. Can. List Price, Each.....1.85

LIBERTY HOOD AND FENDER JET BLACK



A specially prepared tough, long-wearing Enamel that never shows brush marks. Used for painting and refinishing damaged surfaces on hoods, fenders, and chassis of automobiles. One coat only required to give a durable, glossy finish impervious to weather.

1/2 Pt. Can. List Price, Each.....\$.80

1 Pt. Can. List Price, Each.....1.40

1 Qt. Can. List Price, Each.....2.50

LIBERTY ENGINE ENAMEL

Specially prepared to withstand heat, oil, and gasoline. After overhauling a motor, one coat of Liberty Engine Enamel makes the job look twice as good. Two colors, light grey and black.

In ordering Specify Color.



	Black	Grey
1/2 Pt. Can. List Price, Each.....	\$.60	\$.70
1 Pt. Can. List Price, Each.....	1.00	1.25
1 Qt. Can. List Price, Each.....	1.85	2.40

NORWESCO UTILITY BLACK

A high grade black enamel for retouching fenders, hoods, radiators, and engines. Dries in one hour with a high gloss finish. When applied on engine the enamel bakes on, retaining a hard lustre finish.



1/2 Pt. Cans.	List Price	\$.65
1 Pt. Cans.	List Price	1.10
1 Qt. Cans.	List Price	2.00

LIBERTY ALUMINUM ENAMEL



Gives a fine silvery finish to radiators, motors, mufflers, and other parts subjected to heat. Heat, oil, gasoline, and water-proof. Will withstand 250 degrees heat.

1/4 Pt. Can.	List Price, Each	\$.35
1/2 Pt. Can.	List Price, Each	.60
1 Pt. Can.	List Price, Each	1.00
1 Qt. Can.	List Price, Each	1.85

JOHNSON'S AUTO-LAC

A high grade Varnish for hoods, bodies, fenders that renews the original lustre. No experience necessary to get best results. If simple directions are followed will not streak or run. Dry for use in 24 hours.



1 Pt. Can.	List Price, Each	\$1.50
1 Qt. Can.	List Price, Each	2.50

LIBERTY MICA RIM PAINT



A quick-drying gray mica paint used to prevent rust on automobile rims. One coat prevents rusting and keeps tires from sticking. Its cost is nominal, and it will save hours of hard work prying loose rusted on tires. One half pint can paints four rims.

1/2 Pt. Can.	List Price, Each	\$.60
1 Pt. Can.	List Price, Each	1.00
1 Qt. Can.	List Price, Each	1.85

LIBERTY RUST PROOF LACQUER



A quick drying liquid applied with ordinary paint brush or piece of cloth that effectually prevents the formation of rust on iron or steel tools or any finely finished surface. Forms a transparent colorless covering that remains unless purposely scraped off.

Pt. Can.	List Price, Each	\$.75
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LIBERTY BRASS AND COPPER LACQUER

Saves time and "elbow grease." Preserves the polished finish on brass lamps or other highly polished copper, brass, or nickel surfaces. Before applying surface should be thoroughly polished with any good metal polish. Applied with brush.



1/2 Pt. Bottles.	List Price, Each	\$1.50
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LIBERTY TIRE PAINT



A high grade White Tire Paint that doubles the life of spare tires. Water-proofs and fills small cuts and abrasions. Easily applied. Dries quickly. Only one coat required.

1/2 Pt. Can.	List Price, Each	\$.60
1 Pt. Can.	List Price, Each	1.00
1 Qt. Can.	List Price, Each	1.85

NITREX BLACK TIRE PAINT

A specially prepared black tire paint that gives a rich patent leather finish and absolutely protects spare tires against deterioration from water, sun, or air. Highly endorsed by all tire manufacturers. Put up in attractive one quart enameled cans. Packed 48 in case.



Nitrex Black Tire Paint.	List Price	\$2.00
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MICA TIRE POWDER TIRE TALC

We carry in stock genuine powdered Mica ground to extreme fineness with all coarse particles removed. The highest grade tire powder made. Packed in convenient 2" x 9" tubes with sifter top. Weight 12 oz.

Mica Tire Powder. List Price, per tube.....\$.24

TIRE TALC. Genuine soapstone or Tire Talc, very soft and free from all harmful grit. Slightly less expensive than Mica Tire Powder, but guaranteed to be satisfactory. Put up in 2" x 9" sifter top tubes. Weight 1 lb.

Tire Talc or Soapstone. List Price, per tube.....\$.15

PERMATEX FORM-A-GASKET

Is a gasket in paste form that may be molded into the proper shape with the fingers. Dries quickly producing a heat pressure gasoline, oil, and water proof gasket. Especially recommended for cylinder heads, carburetors, manifolds, etc. All sizes except 1 qt. Packed 1 doz. in carton.



2 Oz. Tube.	List Price, Each.....	\$.25
8 Oz. Tube.	List Price, Each.....	.75
1/4 Pt. Can.	List Price, Each.....	.40
1 Pt. Can.	List Price, Each.....	1.25
1 Qt. Can.	List Price, Each.....	2.25

PERMATEX GASKET CEMENT



A heavy heat resisting gasket cement made especially for use on cylinder head, carburetor, manifold, crank case, pump, gaskets. Fills rough places on the surface of gasket and produces a pressure type union that is gasoline, kerosene, oil, and water proof, with five times the heat resistance of ordinary shellac. Sizes up to 1 pt. packed 1 doz. in carton.

2 oz. Bottle.	List Price.....	\$.25
1/4 Pt. Can.	List Price.....	.35
1/2 Pt. Can.	List Price.....	.60
1 Pt. Can.	List Price.....	1.10
1 Qt. Can.	List Price.....	2.00
1 Gal. Can.	List Price.....	7.75

TOP CEMENT—Water-Proof

Invaluable for patching pantasote, mohair, or leather tops and side curtains. Simply apply a thin coat of cement and patch is made in a few moments. Comes in 1 oz. bottles.

Top Cement. List Price.....\$1.00



LIBERTY ORANGE SHELLAC



Highest quality Calcutta Orange Shellac dissolved in pure grain alcohol. Our own product guaranteed—the finest obtainable.

2 oz. Bottle. List Price, Each.....\$.40

8 oz. Bottle. List Price, Each......90

C. O. T. SHELLAC

High quality Shellac dissolved in pure grain alcohol.



2 oz. Bottle.	List Price, Each.....	\$.25
1/2 Pt. Can.	List Price, Each.....	.60
1 Pt. Can.	List Price, Each.....	1.10
1 Qt. Can.	List Price, Each.....	2.00
1 Gal. Can.	List Price, Each.....	7.75

XYLONENE CELLULOID CEMENT



A colorless, transparent cement for repairing broken celluloid windows. Small breaks may be repaired without patching—large breaks by simply cementing a new piece of celluloid over the broken part. Packed in individual containers including bottle of Xylonene Cement and brush.

Xylonene Celluloid Cement. List Price.....\$1.00

LIBERTY VALVE GRINDING
COMPOUND

Packed in a double end box, one end containing a fine grade, the other a coarse grade of carborundum mixed with the proper grease for grinding-in valves, etc. Compact, convenient. Weight 8 oz. Liberty Valve Grinding Compound.

List Price, per can.....\$.40

CARBORUNDUM VALVE GRINDING
COMPOUND—Double Can

A new type handy can containing finely ground Carborundum on one side and a coarser grade on the other. Carborundum is mixed with grease of the proper viscosity.

Carborundum Valve Grinding Compound, Double Can.
List Price, Each.....\$.50

NORWESCO 3-to-1 VALVE GRINDING
COMPOUND

A double can containing 3 oz. of coarse and 1 oz. of fine valve Grinding Compound. This package will last longer as every mechanic knows he uses a larger amount of the coarse grade than the fine grade. Ready mixed with grease for use.

List Price, Each.....\$.40

LIBERTY PRUSSIAN BLUE



Non-drying. Spreads quickly, showing high spots in fitting bearings. Comes in convenient tubes. Highest quality made. $\frac{3}{4}$ " x 4".

List Price, per tube.....\$.25

NORWESCO PRUSSIAN BLUE



Used by practical mechanics for locating high places or worn spots on metal surfaces.

List Price, 1 oz. Tubes, $\frac{3}{4}$ " x $4\frac{1}{2}$ ".....\$.25

VALVE GRINDING COMPOUND
In Tubes

Also sold in convenient tubes ready mixed for use. Each tube contains one grade only. In ordering specify whether coarse, medium or fine is desired. Packed one dozen on neat counter display stand.

List Price, per tube.....\$.35

CARBORUNDUM VALVE GRINDING
COMPOUND

Carried in large 1 and 5 lb. cans in three grades. Consists of powdered Carborundum mixed with grease. In ordering be sure to specify whether fine, medium, or coarse is desired.

1 Lb. Cans. List Price, per lb.....\$1.50

5 Lb. Cans. List Price, per lb.....1.25

POWDERED CARBORUNDUM



Many mechanics prefer to mix their own valve grinding compound. For these we carry in stock Powdered Carborundum in three grades, fine, medium, and coarse. Requires mixing with oil or grease for valve grinding, etc. In ordering specify whether fine, medium, or coarse is desired.

$\frac{1}{2}$ Lb. Can. List Price, Each.....\$.50

1 Lb. Can. List Price, per lb......80

5 Lb. Can. List Price, per lb......70

SMOOTH-ON IRON CEMENT REPAIR
OUTFIT

Smooth-On is acknowledged by all mechanics to be the best metal cement on the market. Not affected by heat, cold, water, gasoline, or oil. Smooth-On repair outfit includes a complete assortment of metal cements for permanently repairing water jackets, engines, boilers, tanks, screw thread joints, pumps, etc. Each outfit contains one 1 lb. can of Smooth-On iron cement, one 1 lb. can Smooth-On Elastic Cement, one roll of Smooth-On tape and one 104 page Smooth-On instruction book.

Smooth-On Cement Only. List Price.....\$.50

Smooth-On Complete Repair Outfit. List Price 2.00

LIBERTY LIQUID RADIATOR CEMENT



The perfect cement for instantly and permanently stopping all leaks in water cooling systems of all cars or trucks. Works in water or any anti-freezing solutions. Harmless, inexpensive, easily used. Full directions on every can. One pint can for large radiators, 1/2 pt. for Fords and other small cars.

1/2 Pt. Can. List Price, Each.....\$.75
1 Pt. Can. List Price, Each.....1.25

JOHNSON'S RADIATOR CEMENT



Simply pour this instantly effective liquid Radiator Cement into the cooling system and stop all leaks in a few moments. Harmless, inexpensive. It permanently repairs all small leaks in cooling systems. Two sizes, quart size for large radiators, pint size for small radiators, such as Fords.

1/2 Pt. Can. List Price, Each.....\$.75
1 Pt. Can. List Price, Each.....1.25
1 Qt. Can. List Price, Each.....2.00

SE-MENT-OL RADIATOR CEMENT LIQUID



Works instantly, congealing when it strikes the air at the leak. One can sufficient to repair leaks in cooling systems up to six gallons capacity. Harmless, safe, sure. Net contents, ten ounces.

SeMENTOL Liquid. List Price.....\$.75

SE-MENT-OL RADIATOR CEMENT POWDER



Exactly the same material as Se-Ment-Ol Liquid Radiator Cement but made in powdered form for those who prefer it to liquid Se-Ment-Ol.

SeMENTOL Powder. List Price.....\$.75

"X" RADIATOR LIQUID



The old reliable "radiator fixer." Works in all anti-freezing solutions and keeps cooling system free from rust, thus preventing overheating the motor. "X" repairs guaranteed to withstand 500 lbs. pressure. Put up in two sizes. Pint can will repair radiators up to five gallon capacity. Ford size will repair Ford and other small radiators. Packed one dozen in carton.

"X" Liquid Large Size. List Price.....\$1.50
"X" Liquid "Ford" Size. List Price......75

SPECIAL "X" RADIATOR LIQUID COUNTER DISPLAY STAND



The best way to show Liquid "X"—Will double your sales. Furnished free with an order for 18 cans of "X" Liquid. Consisting of 12, \$.75 cans and 6, \$1.50 cans. One Extra \$.75 can given free.

NORWESCO IRON CEMENT



Repairs cracks, blemishes, sand-holes, etc., in iron or steel castings and leaks in radiators, boilers, steam pipes, threaded joints, etc. Simply mix the cement with water according to simple directions and in a few moments achieve a permanent repair. When dry, after proper application, repairs will stand 200 lb. pressure. Used extensively by U. S. Navy.

Norwesco Iron Cement. 1 lb. Cans. List Price.....\$.50
Norwesco Iron Cement. 6 oz. Cans. List Price......25

LIBERTY SOLDERING SALTS

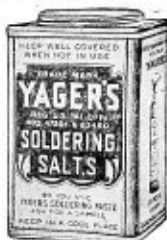


Of exactly the correct chemical composition for easy soldering of all metals but aluminum. Non-corrosive, non-poisonous. Much better than acid and zinc. Simply dissolve a small quantity in water and it is ready for use.

Carried in 1 lb. cans only.
Liberty Soldering Salts. List Price, per lb. \$1.00

YAGER'S SOLDERING SALTS

A well known high grade Soldering Salt. Simply dissolve a small quantity in water, the amount varying with material to be soldered. Packed in 1 lb. can.



List Price, per lb. \$1.00

LIBERTY WELDING AND BRAZING FLUXES



FOR CAST IRON. A fine quality absolutely pure Welding Flux that entirely eliminates pin holes and blow holes. Used for years with perfect satisfaction.

2 Lb. Boxes. List Price, per lb. \$.65
5 Lb. Boxes. List Price, per lb. .60
10 Lb. Boxes. List Price, per lb. .55

No. 3 BRAZING FLUX. A high grade Flux for welding or brazing brass, bronze, copper, and all grades of steel. Guaranteed satisfactory.

2 Lb. Wooden Boxes. List Price, per lb. \$.80
5 Lb. Wooden Boxes. List Price, per lb. .75
10 Lb. Wooden Boxes. List Price, per lb. .70

ALUMINUM WELDING FLUX. Instead of it being a difficult job to weld aluminum, this practical Welding Flux enables a perfect aluminum weld to be quickly and easily made.

1 Lb. Can. List Price \$.80

WONDER WORKER BRAZING FLUX

A perfect Flux for use with cast iron. Packed in 1 lb. cans.



List Price, Each \$1.00

LIBERTY SOLDERING PASTE



Convenient, non-rusting, non-corrosive, non-poisonous flux, useful in soldering all metals. Never corrodes like acid and zinc and is especially recommended for fine soldering jobs on brass or copper.

1 Oz. Tubes. List Price, Each \$.15
2 Oz. Cans. List Price, Each .20
4 Oz. Cans. List Price, Each .30
8 Oz. Cans. List Price, Each .50
1 Lb. Cans. List Price, Each .85

TASGON

Frequently called the "Magic Rust Loosener." A chemical liquid which instantly loosens badly rusted nuts, bolts, bushings, unions, or couplings of any kind. Saves hours of lost time and prevents injury to easily injured parts.



1 Pt. Can. List Price \$1.25
1/2 Pt. Can. List Price .75

JOHNSON'S CARBON REMOVER



Removes all traces of carbon in cylinders, valve parts, spark plugs, etc. Simply pour a few table-spoonfuls into each cylinder through petcocks at night and in the morning all carbon is softened and burned off as soon as motor warms up. Guaranteed to remove all carbon if simple directions are followed.

1/2 Pt. Cans. List Price \$.75
1 Pt. Cans. List Price 1.25
1 Qt. Cans. List Price 2.00

ECCOLENE

A non-volatile, non-injurious liquid that produces complete combustion in the motor, burning up all carbon-forming elements. Saves fuel, increases power, reduces overheating, and gives a 25 per cent. mileage increase. Guaranteed not to injure the motor.



List Price, per qt. \$2.00
List Price, per gal. 7.00

LIBERTY ALCOHOL AND GLYCERINE ANTI-FREEZE MIXTURE



The only absolutely non-injurious Anti-Freeze Solution for a automobile radiators. Each year there are more "supposedly harmless" Anti-Freezing Solutions which invariably result in a multitude of kicks from corroded radiators, pumps, and water lines. Liberty Alcohol and Glycerine Anti-Freeze Solution is made of 188° proof denaturated alcohol and pure glycerine

mixed in the correct proportions. Each can bears a temperature chart showing the quantity of this solution required to prevent freezing at a given temperature. Thousands of gallons sold and not one single complaint.

1 Gal. Can. List Price, Each.....\$1.75
5 Gal. Can. List Price, per gal.....1.50

DENATURATED ALCOHOL



Best quality 188° proof denaturated alcohol that bears the U. S. Government Inspectors stamp as to quality. Alcohol or alcohol and glycerine remain the only absolutely safe Anti-Freezing Solution. Carried in barrels of about 50 gal. and in 5 and 10 gal. wood jacketed cans.

Denaturated Alcohol in bbls. List Price, per gal.
See Discount Sheet.
Denaturated Alcohol in 5 gal. cans. List Price, per gal.
See Discount Sheet.
Denaturated Alcohol in 10 gal. cans. List Price, per gal.
See Discount Sheet.

NORWESCO 1220



A liquid anti-freeze mixture that the manufacturer claims will not injure radiators or any part of cooling system. (Must not be used with aluminum pumps, etc). 1220 should be poured into the radiator and cooling system after thoroughly draining all water, and will protect against freezing to 20° below zero. May be tested for freezing temperature with ordinary battery hydrometer which will read 1220 at the proper mixture to prevent freezing to 20° below zero.

1 Gal. Can. List Price, per gal.....\$1.25
3 Gal. Can. List Price, per gal.....1.15
5 Gal. Can. List Price, per gal.....1.00

LIBERTY NEATSFOOT COMPOUND



For softening and preserving all kinds of leather. Principally used for leather automobile clutches. Makes leather pliable and adds to its life.

1 Pt. Can. List Price, Each.....\$.65

LIBERTY SIGNAL OIL For Oil Lamps

A slow burning high fire-test oil that withstands jars, jolts, and drafts. A trial will convince you of its superiority over ordinary kerosene. Used by railroads on switch lights, cabooses, and other windy places where ordinary kerosene has not proved satisfactory. Gives a beautiful white light.



1 Qt. Can. List Price, Each.....\$.50

CALCIUM CARBIDE



10 Lb. Cans. $\frac{1}{2}$ or 1" Carbide, packed in cases of 6-10 lb. cans.

List Price, per can.....\$2.00

2 Lb. Cans. $\frac{1}{2}$ " Carbide, packed in cases containing 24 cans.

List Price, per can.....\$.40

ALL PRICES AND DISCOUNTS

Subject to Change Without Notice

but—

We guarantee the Lowest Prices consistent with High Grade Merchandise.

GRAPHITE GREASE No. 677

For Transmission and Differential



A graphited grease of just the right consistency for all enclosed transmission and differential gears, except those intended to be lubricated with light oil. It is the grease the "Speed Kings" use. There is nothing like it on the market. We stand behind this grease with our strongest recommendation.

- 1 Lb. Tin Cans, 36 in case. List Price, per lb.....\$.45
 5 Lb. Tin Pails, 10 in case. List Price, per lb..... .40
 10 Lb. Tin Pails, 6 in case. List Price, per lb..... .38

GRAPHITE GEAR OIL No. 675

A fluid gear lubricant for worm drives and for transmission and differential cases designed for light oil lubrication. It readily follows the gears and furnishes ample graphite lubrication to the bearings.

- 5 Lb. Tin Pails, 10 in case. List Price, per lb.....\$.40
 10 Lb. Tin Pails, 6 in case. List Price, per lb..... .38

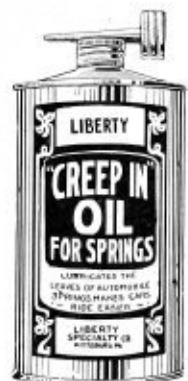
GRAPHITE NON-LEAK-GREASE No. 680

No. 680 solves the problem of grease exuding from the rear axle to the brake bands and wheels. Excess grease not only detracts from the appearance, but also produces an element of danger. Try it if your rear axle leaks. This special grease should be used only when No. 677 or No. 675 will not stay in the differential; it is not intended for transmissions.

- 2 1/2 Lb. Tin Cans, 20 in case. List Price, per lb \$.40
 5 Lb. Tin Pails, 10 in case. List Price, per lb .40
 10 Lb. Tin Pails, 6 in case. List Price, per lb .38

LIBERTY CREEP-IN OIL

For Springs



Comes in a handy can with spout as shown in illustration. A special grade of oil that stops all squeaks and thoroughly lubricates spring leaves. Works with or without a spring spreader.

- 1/2 Pt. Can. List Price, Each.....\$.45
 1 Pt. Can. List Price, Each..... .70

GRAPHITE CUP GREASE

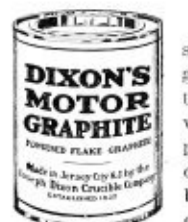
Cup greases containing fine flake graphite reduce friction to a minimum. Use Dixon's No. 3 except in hot climates where No. 5 is better. For all grease cups, axles, etc. Bearings soon acquire the well-known polish that eliminates friction and causes easy running. Specify density desired when ordering.

- 1 Lb. Tin Cans, 36 in case. List Price, per lb.....\$.45
 5 Lb. Tin Pails, 10 in case. List Price, per lb..... .40
 10 Lb. Tin Pails, 6 in case. List Price, per lb..... .38

GRAPHITE HEAT-RESISTING GREASE No. 676

No. 676 is the best grease we know of for universal joints, water pump cup, overhead valve cups and clutch thrust collars. It positively will not melt and run out. This grease should not be used on gears.

- 1 Lb. Tin Cans, 36 in case. List Price, per lb.....\$.50
 5 Lb. Tin Pails, 10 in case. List Price, per lb..... .45

MOTOR GRAPHITE

The purest and most carefully selected grade of flake graphite, ground extremely fine. Its function is to eliminate friction and wear of parts and to increase power. Use it in cylinders, on chains, springs, tires, wheel rims, bearings, and wherever friction occurs.

- 1/2 Lb. Tin Cans, 36 in case. List Price, per can.....\$.50

3-in-1 OIL

Especially recommended for use on magneto, generators, etc. A fine high grade oil particularly useful for small delicate bearings. Comes in improved cans with spout attached, also in bottles.

- 1 Oz. Bottles. List Price.....\$.15
 3 Oz. Bottles. List Price..... .25
 3 Oz. Handy Can. List Price..... .30
 6 Oz. Bottles. List Price..... .50

GARGOYLE MOBILOILS

THE BEST MOTOR VEHICLE OILS MADE. EASILY SOLD. ALWAYS IN DEMAND.

NOTE.—On request, chart specifying correct grade for each automobile, motorcycle or tractor will be furnished on request.

Mobiloids A, B, E, Arctic, and C are packed ten 1-gallon cans to the case, one or two 5-gallon cans to the case, also in barrels. Mobiloil CC is packed ten 5-pound pails to the case, and six 10-pound pails to the case.

GARGOYLE MOBILOIL "A"

Medium Body



A dark amber-colored oil for lubrication of water-cooled engines requiring a rich lubricant. Also for the motor and enclosed chains of electric vehicles, for motorcycles where a medium-bodied oil is required and for motor-boat engines. It holds its body under extreme heat.

1 Gal. Cans.	List Price, per gal.	\$1.40
5 Gal. Cans.	List Price, per gal.	1.20
Barrels (about 50 gal.)	List Price, per gal.	1.00

GARGOYLE MOBILOIL ARCTIC

Light-Medium Body



A light-colored oil of intermediate body for both summer and winter lubrication of gasoline engines. It flows freely in cold weather.

1 Gal. Cans.	List Price, per gal.	\$1.35
5 Gal. Cans.	List Price, per gal.	1.15
Barrels (about 50 gal.)	List Price, per gal.	.95

GARGOYLE MOBILOIL "B"

Heavy Body



For both air and water-cooled engines where a heavy-bodied oil is required. It holds up compression under extreme heat. This oil is especially suitable for lubrication of motorcycle and tractor engines.

1 Gal. Cans.	List Price, per gal.	\$1.60
5 Gal. Cans.	List Price, per gal.	1.40
Barrels (about 50 gal.)	List Price, per gal.	1.20

GARGOYLE MOBILOIL "C"



A heavy, dark fluid oil for transmission and differential lubrication, especially for ball or roller-bearing types, as well as for timing gears and worm gears. It will follow, coat, cushion, and thoroughly lubricate the gears, preventing unnecessary wear, allowing them to engage easily and operate without noise.

1 Gal. Cans.	List Price, per gal.	\$1.15
5 Gal. Cans.	List Price, per gal.	.95
Barrels (about 50 gal.)	List Price, per gal.	.75

GARGOYLE MOBILOIL "E"

Light Body



A straw-colored oil for lubrication of vertical gasoline engines where an oil of light body is required. It flows freely in cold weather. Particularly suited to Fords.

1 Gal. Cans.	List Price, per gal.	\$1.35
5 Gal. Cans.	List Price, per gal.	1.15
Barrels (about 50 gal.)	List Price, per gal.	.95

GARGOYLE MOBILOIL "CC"



A heavy lubricant of dark, amber color, semi-fluid at operative temperatures. It will follow, coat, cushion, and thoroughly lubricate the gears, preventing unnecessary wear and allowing them to engage easily and operate without noise. Its use is recommended where, with a fluid oil, leakage would occur from the transmission case or rear axle housing.

5 Lb. Pails.	List Price, per pail.	\$1.25
10 Lb. Pails.	List Price, per pail.	2.15

Jefferson Auto Ignition Coils

Interchangeable with any of the Standard
Battery Ignition Systems

The Jefferson line of Ignition Coils is 100% complete, consisting of only a few standard types, replacing any of the Coils used as a standard Ignition equipment.

Flexible Fittings, adjustable Caps and Terminals on Jefferson Coils make it possible to use one type to replace many different Coils now in general use.

Under starting conditions, the Battery is at lowest ebb and requires a coil that will produce a hot, intense Spark to overcome this drop in voltage. Jefferson Coils are designed to take care of this extreme condition.

Each Coil is furnished with a Wiring Diagram giving detailed instructions for installing.

Replacement for Delco Systems

D-200 Battery Ignition Coil, 6 or 12 volt.....	\$10.00
D-201 Battery Ignition Coil	10.00
D-202 Battery Ignition Coil	10.00
D-210 Bracket for use with D-200 Coil.....	.50
D-212 Bracket for use with D-200 12-volt Dodge Coil ..	.50
D-216 Bracket for use with D-200 Coil.....	.50
D-218 Bracket for use with D-200 Coil.....	.50
D-222 Bracket for use with D-200 Coil.....	.50
D-240 6-Volt Resistance Unit for use on D-200 Coil..	.50
D-245 6-Volt Resistance Unit for use on D-202 Coil..	.50
D-250 12-Volt Resistance Unit for use on D-200, 12-volt Dodge Coil.....	.50
D-255 Resistance Unit for use on D-201 Coil.....	.50

Replacement for Remy Systems

R-300 Battery Ignition Coil, 6 or 12 volt.....	\$10.00
R-310 Bracket for use with R-300 Coil.....	.25
R-320 Bracket for use with R-300 Coil.....	.50
R-330 Bracket for use with R-300 Coil.....	.50
R-350 6 or 12 Volt Resistance Unit for use on R-300 or A-403 Coil.....	.50

"R" Coils furnished with 2 or 3 Binding Posts, and with or without Resistance Unit.

Replacement for Atwater-Kent Systems

A-400 Coil with Yale Lock Switch, 6 or 12 volt.....	\$13.00
A-401 Coil without Switch, 6 or 12 volt.....	10.00
A-402 Tubular Coil without Resistance, 6 or 12 volt..	8.00
A-403 Tubular Coil with Resistance, 6 or 12 volt.....	8.00

Replacement for Connecticut Systems

C-500 Battery Ignition Coil, 6 or 12 volt.....	\$10.00
C-501 Coil, 6 volts, for 1920 Overland, 4 cyl.....	10.00

Replacement for North East Systems

N-600 Battery Ignition Coil, 6 or 12 volt.....	\$8.00
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Replacement for Wagner Systems

W-700 Battery Ignition Coil.....	\$ 8.00
W-701 Battery Ignition Coil.....	10.00

IMPORTANT—6 and 12 Volt Coils are not interchangeable. Be sure and specify voltage. Unless otherwise mentioned, standard 6 volt Coils will be furnished. If possible, give name, model, and year of car for which Replacement Coil is required.

Jefferson Transformer Coils

Extremely powerful and guaranteed to answer the most rigid automobile engine requirements, regardless of speed, horsepower or compression.

Designed for use with all dual-types of Low Tension Magnets, Kingston, Heinze and Michigan with diagram giving detailed instructions for installing.

No. 100 Tubular Transformer Coil in heavy fiber casing, equipped with highly polished, nickel plated Yale Kick Switch Lock. Dimensions over all, 7½"x5"x4".....

No. 100-A Tubular Transformer Coil, same construction as No. 100, but without Yale Kick Switch. With this coil a separate switch is used. Dimensions over all, 7½"x5"x3".....

No. 100-B Dash Transformer Coil in highly polished mahogany dovetailed case, equipped with Yale Kick Switch. Three keys furnished with each coil. Dimensions over all, 8½"x5½"x4".....

No. 100-C Dash Transformer Coil has the same general construction as the No. 100-B, the only difference being that it is equipped with a plain Kick Switch. Dimensions over all, 8½"x5½"x4".....



No. 100B



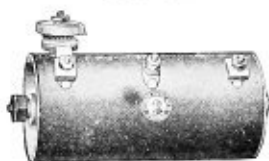
No. 100



D-200 Coil



R-300 Coil



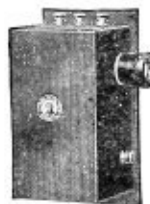
D-202 Coil



C-500 Coil



D-201 Coil



A-401 Coil



N-600



A-403 Coil



D-210 Bracket



R-320 Bracket



R-310 Bracket



R-330



D-218 Bracket



D-240



D-255



R-350

Jefferson Automobile Ignition Coils

Interchangeable With Any of the Standard Battery Ignition Systems

Name	Year	Model	Jefferson Coils and Fittings	Name	Year	Model	Jefferson Coils and Fittings
Abbott.....	1916-17-18	6-44-8-80-6-44-6-62	R-300 Coil with R-320 Bracket	Eagle.....	1917-18	5	A-403 Coil
Ahrens Fox.....	1915		D-201 Coil	Economy.....	1918-19	4-36-8-48	C-500 Coil
Allen.....	1914-19	41	C-500 Coil	Elcar.....	1916-17		D-200 Coil
Alter.....	1916		R-300 Coil	Elcar.....	1918-19	D-4 D-6	A-403 Coil
American.....	1918-19	B	A-403 Coil	Elgin.....	1917-Early		D-200 Coil
Anderson.....	1918-19	20-400-A	C-500 Coil	Elgin.....	1917-18		R-300 Coil with R-310 Bracket
Apperson.....	1916	6-16	D-200 Coil	Elgin..... [Late	1919-20	H	W-700 Coil
Apperson.....	1916-19	6-16-8-16-6-17	R-300 Coil with R-310 Bracket	Emmerson.....	1917	Four	A-403 Coil
Arbenz.....	1915	23	A-400 or 401 Coil	Empire.....	1915-16	33	R-300 Coil with R-310 Bracket (12-volt)
Arbenz.....	1916	25	C-500 Coil	Empire.....	1917-18-19	All Models	C-500 Coil
Argo.....	1914-15-16		A-400 or A-401 Coil	Enger.....	1915-16	6-12	A-400 or 401 Coil
Argo.....	Late 1916		C-500 Coil	Essex.....	1918-19		D-201 Coil
Atlas Truck.....	1918-19		R-300 Coil	Firestone.....	1915	90-E-98-E	C-500 Coil
Auburn.....	1915	Union Model	C-500 Coil	Fischer.....	1914		A-400 or A-401 Coil (12-volt)
Auburn.....	1915	6-40	D-201 Coil	Flaecher.....	1914	4	A-400 or 401 Coil
Auburn.....	1915	4-36	R-300 Coil	Franklin.....	1916-19	Series Nine	A-401 Coil (12-volt)
Auburn.....	1916	6-40-A	D-200 Coil with D-210 Bracket	Gem Truck.....	1918		C-500 Coil (6-volt)
Auburn.....	1916-19	6-38-6-39-4-38-39	R-300 Coil with R-320 Bracket	General Motors	1917		D-200 Coil
Auburn.....	1917-18	6-40-B-6-44	D-200 Coil with D-210 Bracket	Ghent.....	1918	6-60	C-500 Coil
Austin.....	1917-18-19	12-cylinder	2-D-200 Coils	Grant.....	1914-15-16	Four and Six	A-401 Coil
Avery Tractor.....	1919		A-401 Coil	Grant.....	1917-18-19	K-G	R-300 Coil with R-310 Bracket
Bell.....	1915-18	A-15-16-17-18	A-400 or 401 Coil	Hackett.....	1917-18-19	AL-1919-4	C-500 Coil
Bethlehem Truck	1918-19	D-E-F	A-403 Coil (12-volt)	Hall Motor.....	1914		A-400 or 401 Coil
Bimel.....	1916		A-402 Coil	Harroun.....	1917-18	4	A-403 Coil
Birch.....	1916		C-500 (12-volt)	Harroun.....	1919	A	R-300 Coil
Bour Davis.....	1917	17-B-Small Six	D-200 Coil with D-218 Bracket	Harvard.....	1916-19	4-20-4	A-401 Coil
Bour Davis.....	1917	Big Six	R-300 Coil with R-320 Bracket	Hatfield.....	1917-18-19	H-A	C-500 Coil (12-volt)
Briscoe.....	1916	8-4-38	R-300 Coil with R-310 Bracket	Havers.....	1913	55	A-400 or 401 Coil
Briscoe.....	1917-18-19	BA-24-4-24	C-500 Coil	Haynes.....	1917-18-19	40-40-R-41-12	2-D-200 Coils with D-216 Bracket
Buick.....	1914-15	All Models	D-201 Coil	Haynes.....	1915-18-19	30-36-37-34-35-38-39-44	R-300 Coil with R-310 Bracket
Buick.....	1916-19	All Models	D-200 Coil	Hercules.....	1915		C-500 Coil
Bush.....	1918-19	18	D-200 Coil	Highlander.....	1919		D-200 Coil
Cadillac.....	1911 to 19	All Models	D-201 Coil	Hollier.....	1916-19	8-188	A-401 Coil
Campbell.....	1918-19	4	A-403 Coil	Hollier.....	1918-19	206	R-300 Coil with R-310 Bracket
Carter Car.....	1915		D-201 Coil	Homer-Laughlin	1918	D	A-401 Coil
Case.....	1917	T-17	C-500 Coil	Howard.....	1913-16	Six	A-400 or 401 Coil
Case.....	Late 1919-20	V	D-202 Coil	Howard.....	1917		D-200 Coil with D-218 Bracket
Chalmers.....	1917-18-19	6-30-7	R-300 Coil with R-310 Bracket	Hudson.....	1913-15-17	54-37-6-40-6-18-19	D-201 Coil
Chalmers.....	1914-15-16	26-36-6-30	A-401 Coil	Hupmobile.....	1915	54- & Super 6	A-401 Coil (12-volt)
Chevrolet.....	1915 to 17	All Models	C-500 Coil	Hupmobile.....	1916	Four	A-401 Coil (6-volt)
Chevrolet.....	1918-19	490-F-A-D	R-300 Coil with R-330 Bracket	Hupmobile.....	1917	Four	A-402 Coil (6-volt)
Chevrolet Truck	1918-19		R-300 Coil with R-330 Bracket	Hupmobile.....	1918-19	R	A-403 Coil
Cole.....	1913 to 16	666-850	D-201 Coil	Imperial.....	1914-15	4-6	A-400 or A-401 Coil
Cole.....	1917	860	D-200 Coil	Interstate.....	1915-18	15-T-TR	R-300 Coil with R-320 Bracket
Cole.....	1917	880	D-200 Coil with D-218 Bracket	Jackson.....	1915	6-40	D-201 Coil
Cole.....	1918-19	870	D-202 Coil	Jackson.....	1916	68-3-48-34	C-500 Coil
Collier Truck.....	1918	870-M	C-500 Coil	Jackson.....	1917-18	394-8 cyl.	R-300 Coil with R-310 Bracket
Columbia.....	1917-18-19	6-C-D	A-403 Coil	Jeffery.....	1915	1515-3015	R-300 Coil with R-310 Bracket
Columbus Buggy	1914	4	A-400 Coil	Jones.....	1915-16-18	26-AV-B-27	R-300 Coil with R-310 Bracket
Comet.....	1918-19	4-H-4-C-51	D-200 Coil	Jordan.....	1918-19	60-17	D-202 Coil
Comet.....	Late 1919-20	C-53	W-700 Coil	Kearns Truck.....	1918		C-500 Coil
Comet Truck.....	1918-19		D-200 Coil	King.....	1914-17	4-8	A-401 Coil
Commonwealth	1918-19	4-40	A-403 Coil	King.....	1918	EE	A-402 Coil
Corbitt.....	1914-15	D-E-F	A-400 or 401 Coil	King.....	1917-18-19	8-G	A-403 Coil
Crawford.....	1918	6	A-403 Coil	Kissel.....	1917-18	12-cylinder	2-D-200 Coils
Crow-Elkhart.....	1915	4-cylinder	R-300 (12-volt)	Kissel.....	1917-18-19	100 Pt. 6	R-300 Coil with R-320 Bracket
Crow-Elkhart.....	1916-19	30-G-3-35-36-K	R-310 Bracket	Knox Four.....	1913	4-6	A-400 Coil
Cruiser.....	1918		C-500 Coil	Krit.....	1915		R-300 Coil (12-volt)
Cunningham.....	1918	B-V	D-200 Coil	Lange.....	1915		C-500 Coil
Cunningham.....	1919		D-202 Coil	Lewis.....	1915	6	R-300 Coil with R-320 Bracket
Dart Truck.....	1916		C-500 Coil (12-volt)	Lexington.....	1914-15-16	4	A-400 or 401 Coil
Davis.....	1916	C-38-6-E-6-G	D-200 Coil with D-210 Bracket	Lexington.....	1916-19	6-0-17-60, 6-R	C-500 Coil
Davis.....	1917-18-19	All Models	D-200 Coil with D-218 Bracket	Liberty.....	1917-18	10-B	D-200 Coil with D-218 Bracket
Denby Truck.....	1917	4	A-403 Coil	Liberty.....	Early 1919		A-403 Coil
Detroit.....	1915-16	4-cylinder	R-300 Coil with R-310 Bracket	Louverne Truck	1914	760	A-403 Coil
Detroit.....	1915-16	8-cylinder	R-300 Coil with R-320 Bracket	Los Angeles.....	1914	4	A-401 or A-400 Coil
Detroit.....	1916-17	645	C-500 Coil	Loyal Truck.....	1918		A-403 Coil
Dispatch.....	1918	G	D-200 Coil with D-218 Bracket	Madison.....	1916-18-19	T-4-5-7-13	R-300 Coil with R-320 Bracket
Dixie Flyer.....	1917-18-19	L-S-35	C-500 Coil	Maibohm.....	1917	4	A-402 Coil
Dodge.....	1918		D-200 Coil with D-212 Bracket (12v.)	Maibohm.....	Late 1917-18-19	4-A-B	A-403 Coil
Dodge.....	1919		N-600 Coil				
Dodge Truck.....	1918		D-200 Coil with D-212 Bracket (12v.)				
Dodge Truck.....	1919		N-600 Coil				
Dort.....	1916-19	5-A-9	C-500 Coil				

NOTE:—When voltage is not specified it is understood that 6-volt coils are required.

Jefferson Automobile Ignition Coils

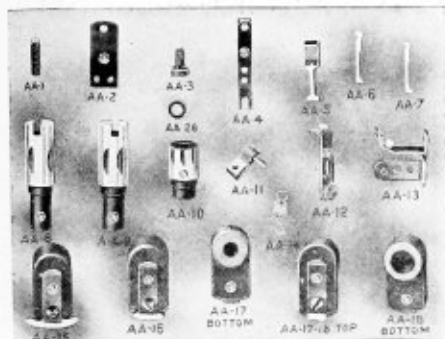
Interchangeable With Any of the Standard Battery Ignition Systems

Name	Year	Model	Jefferson Coils and Fittings	Name	Year	Model	Jefferson Coils and Fittings
Majestic.....	1917	6	A-401 Coil	Peerless.....	Late 1917-18-19	56-8 cyl.	A-403 Coil
Marion-Handley	1917-18	6-40	A-403 Coil	Pennsylvania ..	1918-19	D-18-6 18	C-500 Coil
Maxter Truck..			D-200 Coil	Pilot.....	1916-19	6-45	D-200 Coil with
Maxwell.....	1917-Early	Model 25	A-403 Coil (6-volt)	Pratt.....	1916	6-50	D-218 Bracket
Maxwell Truck.	1917-18-19	4-25	A-403 Coil (12-volt)	Premier.....	1916-19	6-C	A-401 Coil
Meteor.....	1917-18	75-A-80-A-12 cyl.	A-403 Coil (12-volt)	Pullman.....	1917		D-200 Coil with
Meteor.....	1917-18	75-80	2-D-200 Coils	Regal.....	1914-17	4-8	D-222 Bracket
Meteor.....	1914-15-16	4	D-200 Coil with 218 Bracket	Regal.....	Late 1917-18	Four	A-400 or 401 Coil
McLaughlin (Canadian)	1917-18-19	Four	A-400 or 401 Coil	Regal.....	1916-17	E-D-F8-cylinder	A-403 Coil
Metz.....	1917		A-401 Coil	Remington....	1916	Four	C-500 Coil (12-volt)
Michigan Hearse	1917		D-200 Coil with 218 Bracket	Reo.....	1914-18-19	Five R ST, M-R-M-H-U	A-400 or 401 Coil
Midland.....	1914		A-400 or A-401 Coil	Reo.....	1920	All Models	R-300 Coil
Mitchell-Lewis	1915	7-6-5-6	R-300 Coil with R-320 Bracket	Reo Truck.....	1918-19		N-600 Coil
Mitchell-Lewis	1915-16	46	C-500 Coil	Riddle.....	1917		P-300 Coil with R-310 Bracket
Mitchell.....	1917-18	D-40-C-42	C-500 Coil	Ross.....	1915-18	A-B-C	D-200 Coil with
Mitchell.....	1918-19	D-40-C-42	R-300 Coil with R-310 Bracket	Rush Truck....	1918		D-218 Bracket
Moline Knight	1915-19	40-C-50-G-G & Co. 40-L	C-500 Coil	Saxon.....	1914-15-16	A-B 4 and 6	A-401 Coil
Monroe.....	1915-19	M-2-M-3-M-6	A-401 Coil	Saxon.....	1917	Four	A-402 Coil
Monarch.....	1914-15-16	J-M	C-500 Coil	Saxon.....	1917-18	S-4-6 cyl.	R-300 Coil (R-310 Bracket for 1919)
Monitor.....	1915-19	42-6-50-4-38-6-40	D-201 Coil	Saxon.....	Late 1919	Y-18	W-700 Coil
Moon.....	1914-15	42-6-50-4-38-6-40	D-201 Coil	Sayers & Scoville	1916	4	D-201 Coil
Moon.....	1916	6-40-6-30	D-200 Coil with 210 Bracket	Sayers & Scoville	1916	Six	D-200 Coil with
Moon.....	1917-18	6-43-6-66-45	D-200 Coil with D-218 Bracket	Sayers & Scoville	1917-18-19		D-210 Bracket
Moon.....	1918-19	6-36	D-200 Coil with D-222 Bracket	Scripps Booth..	1915	Four	D-200 Coil with
Moon..... [Late	1919-20	Victory	W-700 Coil	Scripps Booth..	1916-17	G-D	A-401 Coil (12-volt)
Moore.....	1918-19	30-C	C-500 Coil	Scripps Booth..	1918-19	D-G-H-D-G-39-6-40	R-300 Coil with
Murray.....	1918	70-T	C-500 Coil	Seneca.....	1918-19	A-4-27	R-300 Coil with
Nash.....	1917		D-200 Coil	Simplex Tractor	1919		A-402 Coil
Nash.....	1918-19	681-671-682-683	D-201 Coil	Sphinx.....	1914-15	Four	A-400 or 401 Coil
Nash.....	Late 1919-20	All Models	W-700 Coil	Sphinx.....	1916		C-500 Coil
Nash Truck....	1919	2017	C-500 Coil	States.....	1918	C-18	C-500 Coil
National.....	1917-18-19	A-K-12-6-12	2-D-200 Coils	Stearns Knight	1916-19	4-8 All Models	R-300 Coil with
New Era.....	1916-17	4	A-401 Coil	Stearns Knight	1917	60-65	R-310 Bracket
Norwalk.....	1915-16-17	6	A-400 or 401 Coil	Stephens.....	Late 1917-18-19	70-74	C-500 Coil
Norwalk.....	Late 1917-18-19		D-200 Coil	Stephens.....	1918-19		D-200 Coil with
Norwalk Truck	1913-14-15	42-6-60-48-62-43-37-49	D-200 Coil	Studebaker....	1914-15	4-cylinder	D-222 Bracket
Oakland.....	1916	38-50-S	D-201 Coil	Studebaker....	1914-15-16	6-cylinder 4-40-6-50	R-300 Coil with
Oakland.....	1917	32-B-34	D-200 Coil with D-222 Bracket	Studebaker....	1916-17-18-19	SF-4-40-50-ED-6 All Mod.	R-310 Bracket
Oakland.....	1916-19	34-B-32-B	R-300 Coil with R-320 Bracket	Studebaker....	Late 1919-20	All Models	R-300 Coil with
Oldsmobile.....	1913-14-15	54-53-42-55	D-201 Coil	Stutz.....	1918-19		2-D-202 Coils
Oldsmobile.....	1916	4-cylinder	D-200 Coil with D-210 Bracket	Sun.....	1916-17-18		R-300 Coil with
Oldsmobile.....	1916	8-cylinder	D-200 Coil	Templar.....	1917-18-19	445-645	R-300 Coil with
Oldsmobile.....	1917-18	44-45-8 cyl.	D-200 Coil with D-218 Bracket	Thomas.....	1915	Six	A-400 or 401 Coil
Oldsmobile.....	1917-18	37-6 cyl.	D-200 Coil with D-222 Bracket	Velie.....	1910-11-12	4-G	A-400 or 401 Coil
Oldsmobile.....	1918-19	37-6 cyl.	R-300 Coil with R-310 Bracket	Velie.....	1912	Truck	A-400 or 401 Coil
Oldsmobile.....	1918-19	45-8 cyl.	D-202 Coil	Velie.....	1915-16	15	A-401 Coil
Old Hickory Truck	1918-19	M	C-500 Coil	Velie Biltwell..	1916	15	A-401 Coil
Olympian.....	1918-Early		C-500 Coil	Velie Biltwell..	1916-19	21-27-28-38-38-39	R-300 Coil with
Olympian.....	1918-Late		A-403 Coil	Velie.....	Late 1919-20	48	R-320 Bracket
Overland.....	1916-19	All Models	C-500 Coil	Velie Truck....	1919	24	A-403 Coil
Overland Truck	1916-19	Panel Exp.	C-500 Coil	Vim.....	1914	Truck Four	R-300 Coil with
Packard.....	1916-17-18	Twin 6-2-35-3-25	2-D-200 Coils with Special Bracket	Vixen.....	1915	Four	A-400 or A-401 Coil
Packard.....	1919	3-25, 3-35	2-D-201 Coils	Wahl.....	1914-15	Four	A-400 or A-401 Coil
Packet Truck..	1918		A-403 Coil	Westcott.....	1914	Four	A-400 or A-401 Coil
Paige.....	1916-19	6-36-46-38-46-6-39-55	R-300 Coil with R-310 Bracket	Westcott.....	1915	6-6-35-04	D-201 Coil
Paige.....	1920	6-40, 6-55	A-401 Coil	Westcott.....	1916	41-51	D-200 Coil with
Parish Truck	1919		C-500 Coil	Westcott.....	1917-18	17	D-210 Bracket
Partin & Palmer	1914-15-16	20-38	A-400 or 401 Coil	Westcott.....	1919		D-200 Coil with
Partin & Palmer	1916-17	4	A-403 Coil	Wichita Tractor	1919		D-218 Bracket
Partin & Palmer	1917-18	20-8-45-32	C-500 Coil	Willys Knight..	1917	88-4-88-6	D-202 Coil
Pathfinder.....	1916-17		D-200 Coil	Willys Knight..	1918	88-8	A-402 Coil
Patterson.....	1915	4-32-6-48	D-201 Coil	Willys Knight..	1918		C-500 Coil
Patterson.....	1916	Early Model	D-200 Coil with D-210 Bracket	Woods.....	1918-19	88-4	R-300 Coil with
Patterson.....	1916-19	All Models	D-200 Coil with D-218 Bracket	Woods Dual....	1915-18	Four	R-330 Bracket
Peerless.....	1915-16-17	4-6-8-4 cyl.	A-401 Coil	Yale.....	1918	54	C-500 Coil
					1917-18	M	A-401 Coil
							A-402 Coil
							R-300 Coil with
							R-310 Bracket

NOTE:—When voltage is not specified it is understood that 6-volt coils are required.

MAGNETO, GENERATOR, IGNITION, ETC., PARTS

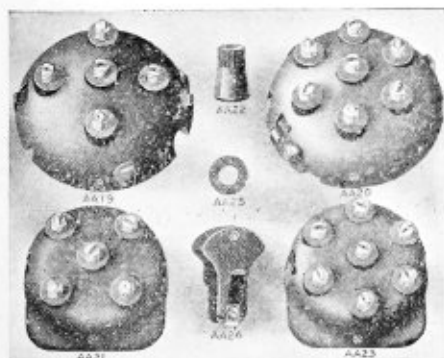
FOR ATWATER-KENT DISTRIBUTOR



(FIG. 1)

- AA1—Tungsten Pointed Contact Screw, to fit Type F, used opposite AA2.....List Price \$1.00
 AA2—Tungsten Pointed Contact Spring, to fit Type F, used opposite AA1.....List Price .75
 AA3a—Tungsten Pointed Contact Screw, to fit Types H, K2 and K3, used opposite AA4a (see cut AA3). List Price......80
 AA3c—Platinum Pointed Contact Screw, to fit Types H, K2 and K3, used opposite AA4c (see cut AA3). List Price.....3.50
 AA4a—Tungsten Pointed Contact Spring, to fit Types H, K2 and K3, used opposite AA3a (see cut AA4). List Price......85
 AA4c—Platinum Pointed Contact Spring, to fit Types H, K2 and K3, used opposite AA3c (see cut AA4). List Price.....3.50
 AA5—Lifter, to fit Type F.....List Price .50
 AA6—Lifter, to fit Type H, two- and four-cylinder; K2 and K3, two-, four- and six-cylinder. List Price .25
 AA7—Lifter, to fit Types K2 and K3, eight-cylinder only. (Same as AA6 with exception of bevel on notched end).....List Price .50
 AA8—Notched Shaft, to fit Types H, K2 and K3, four-cylinder.....List Price 2.00
 AA9—Notched Shaft, to fit Types K2 and K3, six-cylinder.....List Price 2.00
 AA10—Notched Shaft, to fit Types K2 and K3, eight-cylinder.....List Price 2.00
 AA11—Latch, complete with stud, to fit Types H, K2 and K3.....List Price 1.00
 AA12—Tungsten Pointed Stationary Contact, to fit Types CC and CA, used opposite AA13. List Price .75
 AA13—Tungsten Pointed Contact Arm, to fit Types CC and CA, used opposite AA12.....List Price 1.00
 AA14—Lifter Spring, to fit Types H, K2 and K3. List Price......20
 AA15—Distributor Block Complete, to fit Types F, H, K2 and K3, two- and four-cylinder.....List Price .50
 AA16—Distributor Block Complete, to fit Types F, K2 and K3, six-cylinder.....List Price .50
 AA17—Distributor Block Complete, to fit Type K2, eight-cylinder.....List Price .75
 AA18—Distributor Block Complete, to fit Type CC, four- and six-cylinder.....List Price .50
 AA19—Shim Washer, for adjusting AA3.....List Price .01
 AA21—Distributor Block Complete, to fit Type CC, eight-cylinder only. (Same as cut AA18, with exception of longer blade).....List Price .50

FOR ATWATER-KENT DISTRIBUTOR

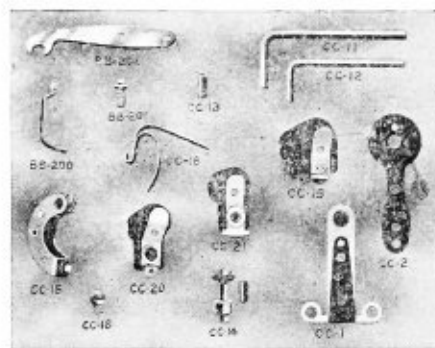


(FIG. 2)

FOR ATWATER-KENT DISTRIBUTOR

- AA19—Distributor Cap, to fit Types K2 and K3, four-cylinder, without terminals.....List Price \$4.50
 AA20—Distributor Cap, to fit Types K2 and K3, six-cylinder, without terminals.....List Price 5.20
 AA21—Distributor Cap, to fit Types CC and CA, four-cylinder, without terminals.....List Price 2.75
 AA22—Distributor Terminal Nut, to fit AA19, 20, 21 and 23.....List Price .30
 AA23—Distributor Cap, to fit Types CC and CA, six-cylinder, without terminals.....List Price 2.90
 AA24—Distributor Block Complete, to fit Type CA, four- and six-cylinder.....List Price .50
 AA25—Rubber Washer, to fit terminals on AA19, 20, 21 and 23.....List Price .03
 AA28—Distributor Block Complete, to fit Type CA, eight-cylinder only. (Same as cut AA24, with exception of longer blade).....List Price .50

FOR CONNECTICUT DISTRIBUTOR AND BERLING MAGNETO



(FIG. 3)

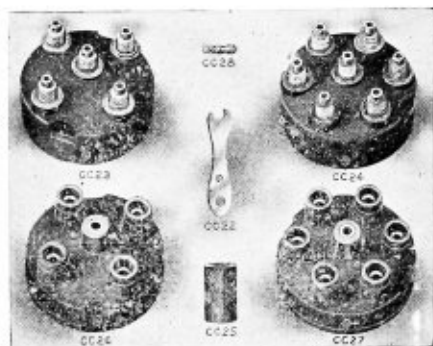
- BB200a—Platinum Pointed Interrupter Contact Spring, large size point (see cut BB200). Used opposite BB201a.....List Price \$4.18
 BB200b—Platinum Pointed Interrupter Contact Spring, medium sized point (see cut BB200). Used opposite BB201b.....List Price 3.63
 BB200c—Platinum Pointed Interrupter Contact Spring, small sized point (see cut BB200). Used opposite BB201c.....List Price 3.08
 BB201a—Platinum Pointed Interrupter Contact Screw, large size point (see cut BB201). Used opposite BB200a.....List Price 3.91
 BB201b—Platinum Pointed Interrupter Contact Screw, medium point (see cut BB201). Used opposite BB200b.....List Price 3.08
 BB201c—Platinum Pointed Interrupter Contact Screw, small size point (see cut BB201). Used opposite BB200c.....List Price 2.53
 BB200—Wrench (case hardened), for adjusting interrupter contact screw on all types.....List Price .15
 CC11—Timing Set Screw Wrench, case hardened (5/32" hexagon) to fit Models 15 and 15T ignitors. List Price.....8.10
 CC12—Timing Set Screw Wrench, case hardened (3/8" hexagon) to fit Models 15 and 15T ignitors. List Price......10
 CC13—Fibre Bushing, to fit stud on breaker plate. Models 15 and 16.....List Price .05
 CC14—Metal Stud, complete with fibre bushing, washers and cotter pin. This part used to adapt CC15 breaker lever to Model 16 (riveted type) breaker plate.....List Price .40
 CC15—Tungsten Pointed Breaker Lever, to fit all models. Used opposite CC16. If lever is riveted on use in connection with CC14.....List Price 1.75
 CC16—Tungsten Pointed Contact Screw, to fit all models. Used opposite CC15.....List Price 1.25
 CC18—Tension Spring, to fit CC15 breaker lever. List Price......10
 CC19—Distributor Rotar Arm, to fit Model M15, four- and six-cylinder.....List Price 1.00
 CC20—Distributor Rotar Arm, to fit Model 15T, four- and six-cylinder.....List Price .75
 CC21—Distributor Rotar Arm, to fit Models 16 and 16C, four- and six-cylinder.....List Price .75

As price of Platinum changes almost daily, these quotations are subject to change without notice.

MAGNETO, GENERATOR, IGNITION, ETC., PARTS

FOR CONNECTICUT DISTRIBUTOR

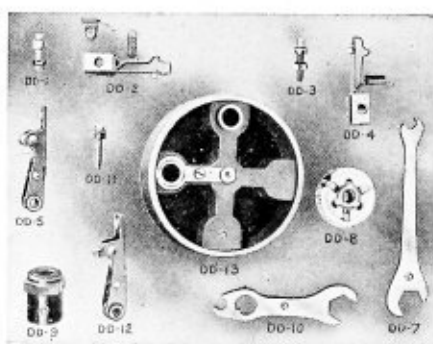
FOR DELCO DISTRIBUTOR



(FIG. 4)

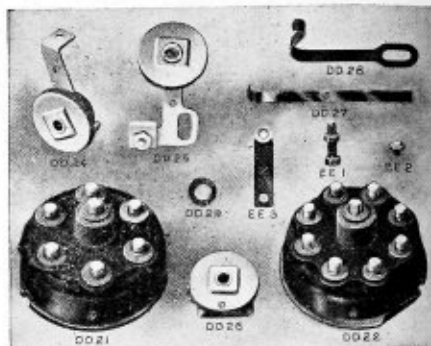
- CC22—Wrench (case hardened), for adjusting contact screw.....List Price \$.10
- CC23—Distributor Case, to fit Model 15T, four-cylinder.....List Price 2.75
- CC24—Distributor Case, to fit Model 15T, six-cylinder.....List Price 3.00
- CC25—Secondary Terminal Nut, to fit CC23 and CC24.....List Price .10
- CC26—Distributor Case, to fit Models 16 and 16C, four-cylinder.....List Price 2.50
- CC27—Distributor Case, to fit Models 16 and 16C, six-cylinder.....List Price 3.00
- CC28—Secondary Metal Slip Terminal Attachment, used to fasten cable in terminals on CC26 and CC27.....List Price .05

FOR DELCO DISTRIBUTOR



(FIG. 5)

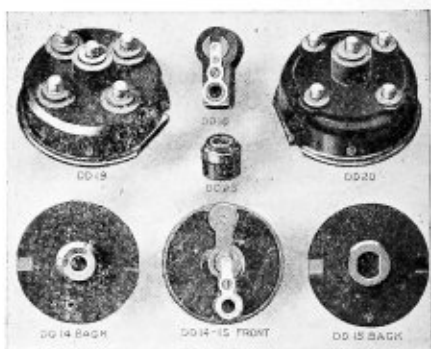
- DD1—Tungsten Pointed Contact Screw Assembly, used opposite DD2 and DD5.....List Price \$.85
- DD2—Tungsten Pointed Contact Arm Assembly, used opposite DD1.....List Price 1.35
- DD3—Platinum Pointed Contact Screw Assembly (battery side), used opposite DD4.....List Price 2.50
- DD4—Platinum Pointed Contact Arm Assembly (battery side), used opposite DD3.....List Price 2.65
- DD5—Tungsten Pointed Contact Arm Assembly, used opposite DD1.....List Price 1.35
- DD6—Wrench, long (case hardened), for adjusting contact screw assembly.....List Price .10
- DD7—Resistance Unit Assembly, early type.....List Price .20
- DD8—High Tension Terminal Nut Assembly, to fit DD19, 20, 21 and 22.....List Price .10
- DD9—Wrench, short (case hardened), for adjusting contact screw assembly.....List Price .20
- DD10—Tungsten Pointed Contact Screw Assembly, Same as DD1, except longer. Used opposite DD12.....List Price .85
- DD11—Tungsten Pointed Contact Arm Assembly, Same as DD5, except longer fibre block. Used opposite DD11.....List Price 1.35
- DD12—Distributor Rotor Assembly, without metal brushes. For brush to fit this part see DD6.....List Price 1.15



(FIG. 6)

- DD14—Distributor Rotar Assembly, without metal brush (round hole type).....List Price \$.30
- DD15—Distributor Rotar Assembly, without metal brush (flat side hole type).....List Price .30
- DD16—Distributor Rotar Assembly, without metal brush.....List Price .35
- DD17—Distributor Rotar Assembly, without metal brush (see cut DD16). As used on Packard cars. Same as DD16 with exception of $\frac{1}{4}$ " hole in end.....List Price .45
- DD18—Distributor Head Assembly, complete with metal plunger contact, four-cylinder. Early type.....List Price 1.75
- DD19—Distributor Head Assembly, complete with metal plunger contact, four-cylinder.....List Price 1.75

FOR DELCO DISTRIBUTOR AND EISEMANN MAGNETO



(FIG. 7)

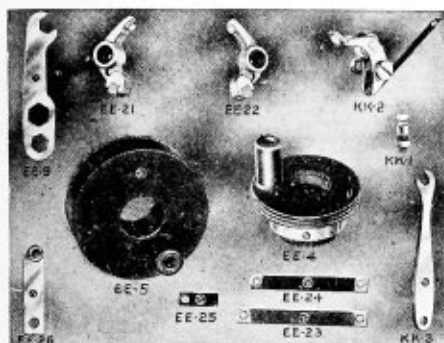
- DD21—Distributor Head Assembly, complete with metal plunger contact, six-cylinder.....List Price \$1.50
- DD22—Distributor Head Assembly, complete with metal plunger contact, eight-cylinder.....List Price 2.00
- DD23—Resistance Unit Assembly, with cap and connector bracket. Six volt.....List Price .25
- DD24—Resistance Unit Assembly, with cap and right angle connector bracket. Six volt.....List Price .35
- DD25—Resistance Unit Assembly, with cap and square base. Six volt.....List Price .25
- DD26—Resistance Unit Assembly, with cap and square base.....List Price .35
- DD27—Tension Spring, flat, to fit contact arm assembly.....List Price .10
- DD28—Tension Spring, loop type, to fit contact arm assembly.....List Price .10
- DD29—Rubber Insulating Washer, to fit terminals on DD19, 20, 21 and 22.....List Price .05

FOR EISEMANN MAGNETO

- EE1—Platinum Pointed Contact Screw, long, to fit all types designated after EE2, 3, 21 and 22. Used opposite EE2, 3, 21 and 22.....List Price \$3.50
- EE2—Platinum Pointed Contact Screw, short, to fit breaker lever on Types EA, ED, EM and EU. Used opposite EE1.....List Price 3.50
- EE3—Platinum Pointed Contact Spring, to fit Types G4, G84, G84 and G86 (all first edition). Used opposite EE1.....List Price 3.50

As price of Platinum changes almost daily, these quotations are subject to change without notice.

FOR EISEMANN AND K. W. MAGNETOS



(FIG. 8)

- | | |
|--|---------|
| EE4—Collector Ring, to fit Types G4 and GR4 (first edition); GN6 (first and third edition).
List Price | \$..... |
| EE5—Collector Ring, to fit Type EM only. List Price | ..... |
| EE9—Wrench (case hardened), for adjusting contact screw. List Price | .20 |
| EE21—Platinum Pointed Breaker Rocker Arm (clockwise), to fit Types G4, GR4 and GS4 (second edition); GN6 (third edition). Used opposite EE1.
List Price | 4.85 |
| EE23—Reinforcing Spring, to fit Types G4, GR4 and GS4 (second edition); GN6 (third edition). Used opposite EE1.
List Price | 4.83 |
| EE23—Tension Spring, flat, to fit breaker arm on Type EM. List Price | .05 |
| EE24—Tension Spring, flat, to fit EE21 and EE22.
List Price | .05 |
| EE25—Reinforcing Spring, to fit either end of EE23 and EE24. List Price | .03 |
| EE26—Pressure Spring, with fibre button, of RE3. List Price | .10 |
| EE27—Collector Ring, to fit Type GS4 (first and second edition). (see cut EE5). List Price | ..... |

KK1—Platinum Pointed Contact Screw , to fit all models. Used opposite KK2.....	List Price \$4.95
KK2—Platinum Pointed Circuit Breaker Arm , to fit all models. Used opposite KK1.....	List Price 5.18
KK3—Wrench (case hardened), for adjusting contact screw.....	List Price .15

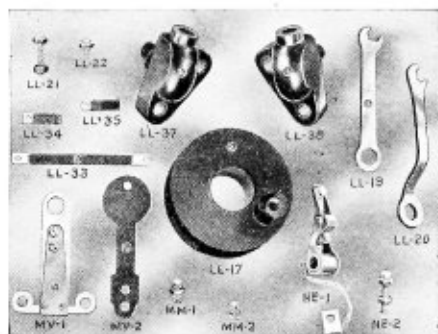
KK-200
 KK-204
 KK-201
 KK-202
 LL-12
 LL-14
 KK-205
 LL-11
 LL-2
 LL-1
 LL-3
 LL-4
 LL-13
 KK-203

(FIG. 9)

- | | | |
|--|---------------|------|
| KK200—Tungsten Pointed Contact Breaker Arm. Used opposite KK201..... | List Price \$ | .85 |
| KK201—Tungsten Pointed Contact Screw. Used opposite site KK200..... | List Price | .75 |
| KK202—Distributor Disc Assembly (metal Rotar blade is reversible for either right or left rotation). | List Price | .75 |
| KK203—Distributor Cover, complete with carbon plunger contact..... | List Price | 2.50 |
| KK204—Distributor Terminal Nut, to fit KK203. Upr..... | List Price | .35 |
| KK205—Rubber Washer to fit terminals on KK203. List Price..... | List Price | .10 |

LL1—Platinum Pointed Contact Screw , long, to fit all types of D, DR, DU, NU and (ZR old and new style). Used opposite LL2.....	List Price \$4.11
LL2—Platinum Pointed Contact Screw , short, to fit all types of D, DR, DU, NU and (ZR old and new style). Used opposite LL1.....	List Price 4.11
LL3—Platinum Pointed Contact Screw , long, to fit Types DA, DAV and (BA1 early). Used opposite LL4.....	List Price 3.41
LL4—Platinum Pointed Contact Screw , short, to fit Types DA, DAV and (BA1 early). Used opposite LL3.....	List Price 3.41
LL11—Rotating Distributor Brush Holder , to fit Types L13, 4 and 6 (independent); DU (dual), DU (dual) and ZR (new style).....	List Price .68
LL12—Collector Ring , BA1, to fit the attachments, to fit Types DU3, 4 and 6.....	List Price .42
LL13—Distributor Board , complete with terminal nuts, to fit Types DU4 and ZR 4 (new style).....	List Price 4.30
LL14—Collector Ring Brush Holder , without attachments, to fit Types DU3, 4 and 6.....	List Price .42

FOR AMERICAN-BOSCH MAGNETO AND
K. W. MASTER VIBRATOR



(FIG. 10)

- | | |
|--|------------------|
| (Figs. 10) | |
| LL17—Collector Ring, to fit Types D3, 4 and 6. | |
| List Price | \$..... |
| LL18—Collector Ring, to fit Types DU3, 4 and 6; DR3, 4 and 6; DU Dual and Duplex; ZR4 and 6 old style (see cut LL17)..... | List Price |
| LL19—Wrench, straight type (case hardened), for adjusting contact screw, to fit all types except DA and DAV and BA1 early..... | List Price |
| LL20—Wrench, offset type (case hardened), for adjusting contact screw, to fit all types except DA and DAV and BA1 early..... | List Price |
| LL21—Platinum Pointed Contact Screw, long, to fit Types BA1 (new style), ZE1 and 2, and ZEV. Used opposite LL22 | List Price |
| LL22—Platinum Pointed Contact Screw, short, to fit Types BA1 (new style), ZE1 and 2, and ZEV. Used opposite LL21 | List Price |
| LL23—Tension Spring, flat, for interrupter lever. | |
| List Price | .06 |
| LL34—Auxiliary Spring on Boss of Interrupter Disc (square end) | List Price |
| LL35—Auxiliary Spring on Interrupter Lever (round end) | List Price |
| LL36—Collector Ring, to fit Type ZEV (see cut LL17). | |
| List Price | .04 |
| LL37—Collector Ring Brush Holder, complete with pointed cable fastening screw (left side) to fit Types ZE2 and ZEV..... | List Price |
| LL38—Collector Ring Brush Holder, complete with pointed cable fastening screw (right side), to fit Types ZE2 and ZEV..... | List Price |

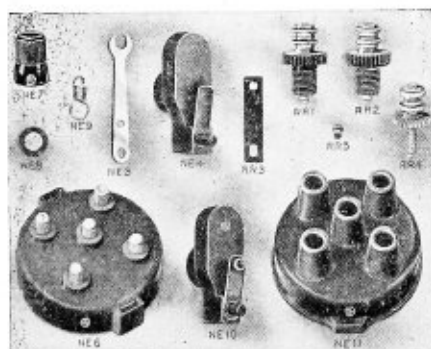
MV1a—Platinum Pointed Bridge , to fit KW master vibrator. Used opposite MV2a (see cut MV1).	
List Price	\$3.50
MV1b—Tungsten Pointed Bridge , to fit KW master vibrator. Used opposite MV2c (see cut MV1).	
List Price	1.25
MV2a—Platinum Pointed Spring , to fit KW master vibrator. Used opposite MV1a (see cut MV2).	
List Price	3.50
MV2c—Tungsten Pointed Spring , to fit KW master vibrator. Used opposite MV1c (see cut MV2).	
List Price	1.25

MM1—Platinum Pointed Contact Screw, long, to fit Types BH and BK. Used opposite MM2. List Price \$3.50

MM2—Platinum Pointed Contact Screw, short, to fit Types BH and BK. Used opposite MM1. List Price 3.50

MM5—Wrench (case hardened), for adjusting contact screw (see cut LL20)..... List Price .30

MAGNETO, GENERATOR, IGNITION, ETC., PARTS

FOR MEA AND REMY MAGNETOS AND
NORTHEAST DISTRIBUTOR

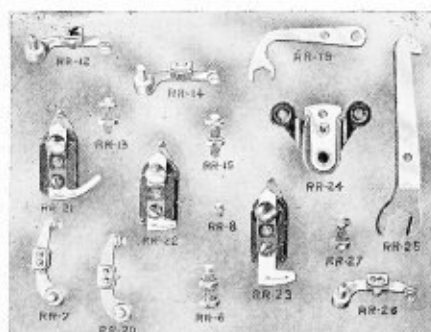
(FIG. 11)

- NE1—Tungsten Pointed Breaker Arm, complete with
pigtails. Used opposite NE2.....List Price \$.95
NE2—Tungsten Pointed Contact Screw. Used opposite
NE1.....List Price .50
NE3—Wrench (case hardened), for adjusting contact
screw.....List Price .30
NE4—Distributor Rotar Arm, complete with brush and
spring. Used with NE5 only.....List Price 1.35
NE5—Distributor Cover, screw terminal type, four-
cylinder.....List Price 3.00
NE7—High Tension Terminal Nut, to fit NE6.....
List Price .30
NE8—Rubber Washer, to fit terminals on NE6.....
List Price .05
NE9—Tension Coil Spring, to fit NE1.....List Price .05
NE10—Distributor Rotar Arm, complete with brush
and spring. Used with NE11 only.....List Price 1.35
NE11—Distributor Cover, plug terminal type, four-cyl-
inder.....List Price 4.25

FOR REMY MAGNETO

- RR1—Platinum Pointed Contact Screw, to fit Model L.
Used opposite RR3.....List Price \$3.50
RR2—Platinum Pointed Contact Screw, to fit Model S.
Same as RR1, except square shoulder. Used opposite
RR3.....List Price 3.50
RR3—Platinum Pointed Contact Spring, to fit models
designated after RR1 and RR2. Used opposite
RR1 and RR2.....List Price 3.50
RR4—Platinum Pointed Contact Screw, to fit Models
Rd and RL. Used opposite RR5.....List Price 3.50
RR5—Platinum Pointed Contact Screw, short, to fit
breaker lever on Models Rd and RL. Used opposite
RR4.....List Price 3.35

FOR REMY DISTRIBUTOR



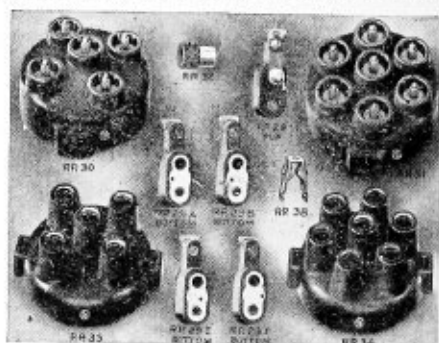
(FIG. 12)

- RR6—Platinum Pointed Adjusting Screw, to fit igni-
tion distributor. Used opposite RR7, 8 and 20,
only.....List Price \$3.60
RR7—Platinum Pointed Circuit Breaker Lever, with
concave fibre block, to fit ignition distributor.
Used opposite RR6 only.....List Price 4.20
RR8—Platinum Pointed Contact Screw, short, to fit
breaker lever on Models S0 and S1. Early type.
Used opposite RR6 only.....List Price 3.35
RR12—Tungsten Pointed Circuit Breaker Lever, large
point, to fit ignition distributor. Used opposite
RR13 only.....List Price 1.10

As price of Platinum changes almost daily, these quotations are subject to change without notice.

FOR REMY DISTRIBUTOR

- RR13—Tungsten Pointed Adjusting Screw, large point,
to fit ignition distributor. Used opposite RR12
only.....List Price \$.30
RR14—Silver Pointed Circuit Breaker Lever, large
point, to fit ignition distributor. Used in conjunc-
tion with polarity switch and opposite RR15 only.
List Price.....1.10
RR15—Silver Pointed Adjusting Screw, large point, to
fit ignition distributor. Used in conjunction with
polarity switch and opposite RR14 only.
List Price......30
RR19—Wrench, new type (case hardened), for ad-
justing contact screw.....List Price .10
RR20—Platinum Pointed Circuit Breaker Lever, with
raised fibre block, to fit ignition distributor. Used
opposite RR6 only.....List Price 4.20
RR21—Distributor Segment Assembly, complete, to fit
four-cylinder. (Metal rotar blade, is reversible
for either right or left rotation).....List Price .75
RR22—Distributor Segment Assembly, complete, to
fit six-cylinder. (Metal rotar blade, is reversible
for either right or left rotation).....List Price .75
RR23—Distributor Segment Assembly, complete, to fit
eight-cylinder. (Metal rotar blade is reversible for
either right or left rotation).....List Price \$.75
RR24—Distributor Brush Holder, Studebaker type.
List Price......75
RR25—Cam Lifter (case hardened). Used for remov-
ing Remy cams.....List Price .15
RR26—Tungsten Pointed Circuit Breaker Lever, small
point, to fit ignition distributor. Used opposite
RR27 only.....List Price 1.10
RR27—Tungsten Pointed Adjusting Screw, small
point, to fit ignition distributor. Used opposite
RR26 only.....List Price .30



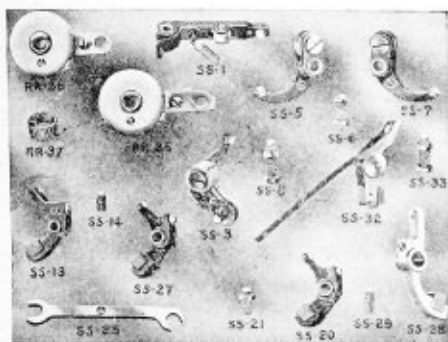
(FIG. 13)

- RR29—Note—A, B, C, D, E and F all constructed the
same with the exception of timing pin hole. (See
car guide before ordering).....List Price
RR29A—Distributor Segment Assembly, to fit four-
cylinder, clock-wise, tangential cam.....List Price .75
RR29B—Distributor Segment Assembly, to fit six-
cylinder, clock-wise, standard or tangential cam.
Also to fit four-cylinder, clock-wise standard cam.
List Price......75
RR29C—Distributor Segment Assembly, to fit eight-
cylinder, clock-wise. Same as RR29B with excep-
tion of longer blade. (See Cut RR29B).
List Price......75
RR29D—Distributor Segment Assembly, to fit eight-
cylinder, counter clock-wise. Same as RR29C with
exception of longer blade. (See Cut RR29C).
List Price......75
RR29E—Distributor Segment Assembly, to fit six-cyl-
inder, counter-clock-wise, standard or tangential
cam. Also to fit four-cylinder, counter-clock-wise,
standard cam.....List Price .75
RR29F—Distributor Segment Assembly, to fit four-cyl-
inder, counter-clock-wise, tangential cam.
List Price......75
RR30—Distributor Cap Assembly, screw terminal type,
four-cylinder.....List Price 3.50
RR31—Distributor Cap Assembly, screw terminal type,
six-cylinder.....List Price 4.00
RR32—Distributor Terminal Nut, brass, to fit RR30
and RR31.....List Price .15
RR33—Distributor Cap Assembly, plug terminal type,
four-cylinder.....List Price 3.50
RR34—Distributor Cap Assembly, plug terminal type,
six-cylinder.....List Price 4.00
RR35—Secondary Metal Slip Terminal Attachment
(used to fasten cables in terminals on RR33 and
RR34).....List Price .15

MAGNETO, GENERATOR, IGNITION, ETC., PARTS

FOR REMY DISTRIBUTOR, AND SIMMS,
SPLITDORF AND DIXIE MAGNETOS

FOR SPLITDORF AND DIXIE MAGNETOS,
SPLITDORF AND WESTINGHOUSE
DISTRIBUTORS



(FIG. 14)

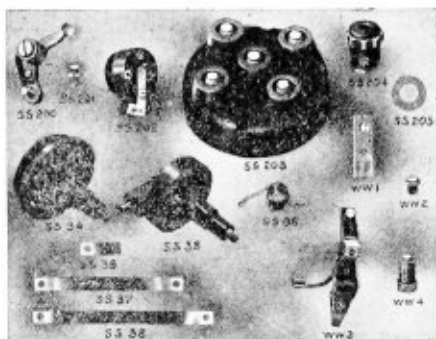
- RR25—Resistance Unit, six-volt, long arm type.
List Price \$.50
- RR36—Resistance Unit, six-volt, short arm type.
List Price50
- RR37—Tension Coil Spring, to fit RR7, 12, 14, 20 and 26 List Price .05
- RR39—Wrench, short type (case hardened), for adjusting contact screw. (No cut shown). List Price .10

FOR SIMMS MAGNETO

- SS12—Platinum Pointed Contact Screw, long, to fit all types. Used opposite SS19. List Price \$3.70
- SS19—Platinum Pointed Contact Screw, short, to fit all types. Used opposite SS12. List Price 3.70
- SS30—Wrench (case hardened), for adjusting contact screw. List Price .10

FOR SPLITDORF AND DIXIE MAGNETOS

- SS1—Platinum Pointed Breaker Bar, to fit Models B, D, G and S (low tension). Used opposite SS8. List Price \$6.00
- SS2—Platinum Pointed Breaker Bar, to fit Models A, AX, F, T, TT, W, X, Y and Z (low tension). Used opposite SS8. List Price 4.50
- SS5—Platinum Pointed Breaker Bar, clock-wise, to fit Models EU, EU4 and EU4-2. Used opposite SS6. List Price 4.35
- SS6—Platinum Pointed Contact Screw, to fit all models designated after SS5 and SS7. Used opposite SS5 and SS7. List Price 3.95
- SS7—Platinum Pointed Breaker Bar, counter-clock-wise, to fit Models EU, EU4 and EU4-2. Used opposite SS6. List Price 4.35
- SS8—Platinum Pointed Contact Screw, to fit all models designated after SS1 and SS3. Used opposite SS1 and SS3. List Price 4.50
- SS13—Platinum Pointed Breaker Bar, to fit Dixie Models 40, 60, 8-7 and 700. Used opposite SS14. List Price 4.75
- SS14—Platinum Pointed Contact Screw, to fit all models designated after SS13 and SS27. Used opposite SS13 and SS27. List Price 3.25
- SS20—Platinum Pointed Breaker Bar, to fit Dixie Model 441. Used opposite SS21. List Price 5.80
- SS21—Platinum Pointed Contact Screw, to fit Dixie Model 441. Used opposite SS20. List Price 5.20
- SS25—Wrench (case hardened), for adjusting contact screw. List Price .25
- SS27—Platinum Pointed Breaker Bar, to fit Dixie Models 43, 44, 46, 66, 80, 88, 120 and 462. Used opposite SS14. List Price 4.75
- SS28—Platinum Pointed Breaker Bar, to fit Dixie Models M2 and H, motorcycle type. Used opposite SS29. List Price 4.30
- SS29—Platinum Pointed Contact Screw, to fit Dixie Models M2 and H, motorcycle type. Used opposite SS28. List Price 3.80
- SS32R—Platinum Pointed Breaker Bar, clock-wise, to fit Dixie Models 800 and 825, Airplane type. Used opposite SS33. (See cut SS32). List Price 7.20



(FIG. 15)

- SS32L—Platinum Pointed Breaker Bar, counter-clock-wise, to fit Dixie Models 800 and 825, Airplane type. Used opposite SS33. (See cut SS32). List Price \$7.20
- SS33—Platinum Pointed Contact Screw, to fit Dixie Models 800 and 825, Airplane type. Used opposite SS32R and SS32L. List Price 5.70
- SS34—Distributor Disc, to fit Dixie four-cylinder. List Price 1.65
- SS35—Distributor Finger, to fit Dixie six-cylinder. List Price 1.65
- SS36—Tension Coil Spring, to fit SS3. List Price .17
- SS37—Tension Spring, flat, to fit SS13. List Price .11
- SS38—Tension Spring, flat, to fit SS27 and SS20. List Price .11
- SS39—Buffer Spring, to fit either end of SS37 and SS38. List Price .06
- SS42—Distributor Finger, to fit Dixie Model 441. Square distributor brush used. (No cut shown). List Price 2.75

FOR SPLITDORF DISTRIBUTOR

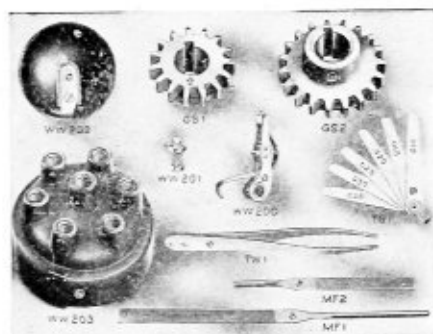
- SS200—Tungsten Pointed Breaker Bar, to fit Model C distributor. Used opposite SS201. List Price \$2.25
- SS201—Tungsten Pointed Contact Screw, to fit Model C distributor. Used opposite SS200. List Price 1.00
- SS202—Distributor Rotor, complete, to fit Model C distributor. (Metal rotor blade is reversible for either right or left rotation). List Price .50
- SS203—Distributor Cover, complete with carbon plunger contact, to fit Model C distributor, four-cylinder. List Price 3.00
- SS204—Terminal Nut, to fit SS203. List Price .20
- SS205—Rubber Insulating Washer, to fit terminals on SS203. List Price .05
- SS206—Tension Coil Spring, to fit SS200. (See cut SS36). List Price .17

FOR WESTINGHOUSE DISTRIBUTOR

- WW1—Platinum Pointed Contact Spring, to fit horizontal type. Used opposite WW2. List Price \$5.00
- WW2—Platinum Pointed Contact Screw, to fit horizontal type. Used opposite WW1. List Price 5.00
- WW3—Platinum Pointed Interrupter Contact Arm, to fit vertical type. Used opposite WW4. List Price 5.90
- WW4—Platinum Pointed Interrupter Contact Screw, to fit vertical type. Used opposite WW3. List Price 5.90

As price of Platinum changes almost daily, these quotations are subject to change without notice.

MAGNETO, GENERATOR, IGNITION, ETC., PARTS

FOR WAGNER DISTRIBUTOR
and Miscellaneous Parts

(FIG. 16)

- WW200—Tungsten Pointed Breaker Lever, complete with tension spring. Used opposite WW201. List Price \$3.00
- WW201—Tungsten Pointed Contact Screw. Used opposite WW200. List Price 2.50
- WW202—Revolving Distributor Disc Assembly (clockwise). List Price 1.00
- WW203—Distributor Cover, complete with carbon plunger contact, six-cylinder. List Price 4.00

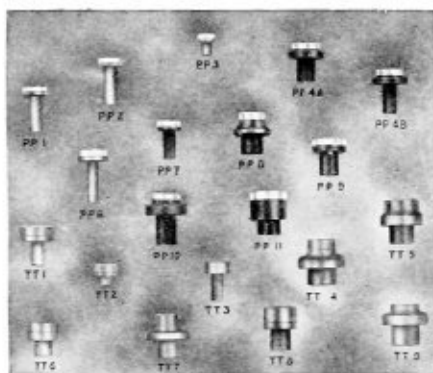
MISCELLANEOUS PARTS

- GS1—Generator Sprocket (15-tooth). Used on Models GD and GC Autolite generator. Overland cars. List Price \$1.95
- GS2—Generator Sprocket (19-tooth). Used on Models GD and GC Autolite generator. Overland cars. List Price 2.70
- MF1—Magnet Point File, long. Superior quality. For dressing down contact points. List Price .25
- MF2—Magnet Point File, short. Superior quality. For dressing down contact points. List Price .25
- TG1—Thickness Gauge. Used for correct spacing between contact points on all magnetos and battery distributor systems. Complete with chart showing all spacing adjustments. List Price .50
- TW1—Tweezers, nickel plated. Used for handling contact points, platinum rivets, etc. List Price .15

IRIDIO-PLATINUM AND TUNGSTEN
POINTS

With Base Metal Stems

Enlarged 1 3/4 Times



(FIG. 18)

- PP1—Large Point, low tension. Used on RR3. List Price \$4.20
- PP2—Medium Point, low tension. List Price 3.90
- PP3—Small Point, coil size, low tension. Used on DD4. List Price 3.00
- PP4—Special Point, high tension. Used on SS5 and

- SS7. List Price 4.90
- PP4b—Special Point, low tension. Used on SS1 and SS3. List Price 4.50
- PP6—Large Point, high tension. Used on BB200a, EE3, MV1a, MV2a and SS20. List Price 4.20
- PP7—Special Point, high tension. Used on AA4c, BB200c, SS13, SS27 and SS28. List Price 3.80
- PP8—Special Point, low tension. Used on RR7 and RR20. List Price 3.60
- PP9—Extra Large Point, high tension. Used on KK2 and WW1. List Price 4.90
- PP10—Special Point, high tension. Used on EE21 and EE22. List Price 3.45
- PP11—Special Point, extra large, high tension. Used on WW3 only. List Price 5.50
- NOTE—We list no platinum points to be used on contact screws as the difference between prices of screw complete and point alone is negligible.

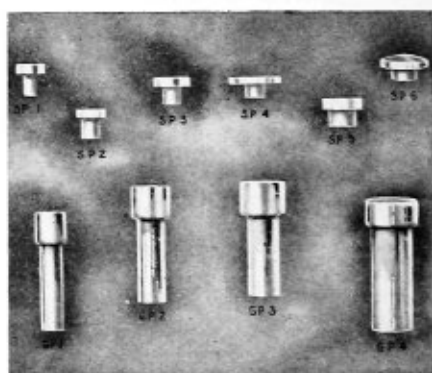
TUNGSTEN POINTS
With Base Metal Stems

Enlarged 1 3/4 Times

- TT1—Large Point. Used on DD2, DD5, DD12, MV1c and MV2c. List Price \$.75
- TT2—Small Point. Used on AA4a, CC1 and CC2. List Price .50
- TT3—Small Point. Same as TT2 with longer stem. Used on AA3. List Price .60
- TT4—Special Point. Used on CC16. List Price .75
- TT5—Special Point. Used on NE1 and RR12. List Price .75
- TT6—Special Point. Used on AA12, AA13 and KK200. List Price .75
- TT7—Special Point. Used on RR26. List Price .60
- TT8—Special Point. Used on SS200. List Price .75
- TT9—Special Point. Used on WW200. List Price .75

SILVER RELAY AND IGNITOR POINTS

Enlarged 1 3/4 Times



(FIG. 19)

- SP1—Diameter of head, .125; thickness, .038; length of shank, .300; diameter, .065. List Price \$.40
- SP2—Diameter of head, .125; thickness, .032; length of shank, .305; diameter, .100. List Price .40
- SP3—Diameter of head, .187; thickness, .045; length of shank, .305; diameter, .095. List Price .40
- SP4—Diameter of head, .250; thickness, .035; length of shank, .065; diameter, .095. List Price .50
- SP5—Diameter of head, .187; thickness, .050; length of shank, .075; diameter, .125. List Price .50
- SP6—Diameter of head, .250; thickness, .060; length of shank, .075; diameter, .125. List Price .60

GILLOID IGNITER POINTS

For Make and Break Gas Engine Ignitors

Enlarged 1 3/4 Times

- GP1—Diameter of head, 1/4"; thickness, 5/32"; length of shank, 13/32"; diameter, .095". List Price \$.15
- GP2—Diameter of head, 11/64"; thickness, 5/32"; length of shank, 13/32"; diameter, .120" List Price .20
- GP3—Diameter of head, 7/32"; thickness, 5/32"; length of shank, 13/32"; diameter, .148" List Price .25
- GP4—Diameter of head, 1/4"; thickness, 1/2"; length of shank, 1/2"; diameter, .203" List Price .30

As price of Platinum changes almost daily, these quotations are subject to change without notice.

Ignition Lighting System, Etc.

Repair Parts and Brushes

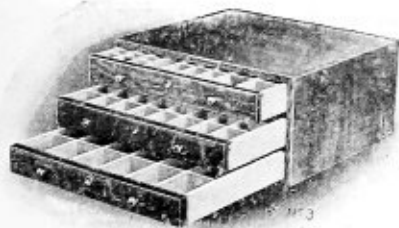
No. 1 CABINET ASSORTMENT



Consists of 110 repair parts that will replace any ignition parts on 50 of the most popular cars from 1915 to 1919 inclusive. Assortment consists of Platinum Pointed Parts, Tungsten Pointed Breaker Arms and Screws, Bakelite Distributor Blocks, Magneto Brushes, and a complete set of Adjusting Wrenches. A complete replacement repair part catalogue is furnished, giving the proper retail price, dealers' cost, etc. This handsome $16\frac{1}{2} \times 15 \times 3$ in. cabinet is given FREE with the above assortment. Cabinet is made of solid oak, handsomely finished, and equipped with 67 separate compartments and substantial lock. All parts numbered to prevent confusion.

No. 1 Cabinet Assortment, with Cabinet. List Price\$52.50
Cabinet only, without Assortment. List Price. 15.00

No. 2 CABINET ASSORTMENT BRUSHES



With this assortment of Brushes only (no ignition parts, etc.), a handsome two-drawer cabinet of the same dimensions as No. 1 Cabinet is furnished. This assortment consists of 125 Starter and Generator Brushes, enabling replacements to be made on practically all popular cars. A complete catalogue is furnished, enabling the dealer to identify each part at a glance, and gives the proper retail selling price. Cabinet made of solid oak, identical in design and appearance as No. 1 Cabinet, and equipped with two drawers with locks. Size of Cabinet, $16\frac{1}{2} \times 15 \times 5\frac{1}{2}$ inches.

No. 2 Cabinet Assortment Brushes, with Cabinet. List Price\$60.00
No. 2 Cabinet only, without Brushes. List Price, 18.00

No. 3 CABINET ASSORTMENT IGNITION PARTS AND BRUSHES



No. 3 Assortment includes a complete assortment of Ignition Parts, including Platinum Pointed Contacts, etc., and Starter and Generator Brushes to fit every popular car. Assortment consists of 250 parts, enabling the repair man to make replacements on the spot for any car later than 1915. Cabinet is equipped with three drawers with substantial locks and compartments, and is made from solid oak, handsomely finished. Size $16\frac{1}{2} \times 15 \times 8$ inches. This handsome cabinet is given FREE with the above assortment.

No. 3 Cabinet Assortment Ignition Parts and Brushes, with Cabinet. List Price.....\$150.00
No. 3 Cabinet only, without stock. List Price, 22.50

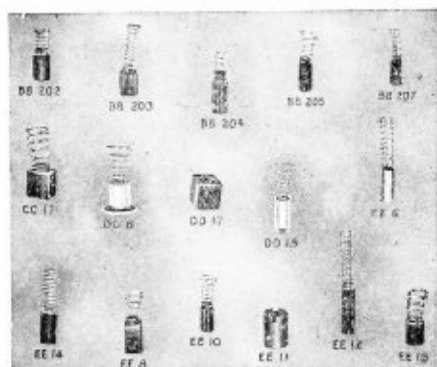
MAGNETO BRUSH ASSORTMENT



An inexpensive, convenient method for carrying a generous supply of all Magneto Brushes for the most popular cars. Assortment is put up in a handsome cardboard showcase display container, with a separate compartment for each style brush and the proper numbering and retail prices shown. This assortment is particularly recommended for garage and repair shop use.

No. MBA Magneto Brush Assortment. List Price Complete.....\$22.50

MAGNETO, GENERATOR, IGNITION, ETC., BRUSHES

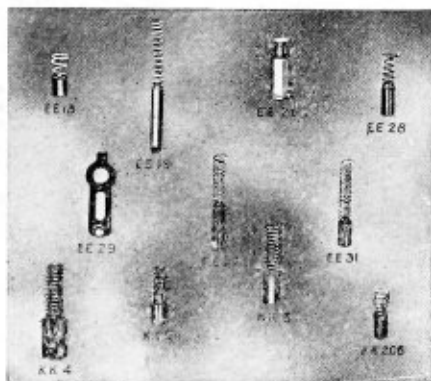
FOR BERLING AND EISEMAN MAGNETOS (including Springs)
AND CONNECTICUT OR DELCO DISTRIBUTORS

(FIG. 20)

- BB202—Carbon Interrupter Ground Brush, to fit all types. One required.....List Price \$.10
 BB203—Carbon Distributor Finger Brush. One required.....List Price \$.15
 BB204—Carbon Distributor Finger Contact Brush. One required.....List Price \$.15
 BB205—Carbon Collector Brush. Two required.....List Price \$.10
 BB207—Carbon Collector Brush. Sometimes used as distributor brush.....List Price \$.10

CONNECTICUT AND DELCO DISTRIBUTOR

- CC17—(For Connecticut) Carbon Distributor Rotor Brush, with spring, to fit CC19. One required.....List Price \$.30
 DD6—(For Delco) Metal Distributor Rotor Brush, with spring, hollow type, to fit DD13, 14, 15 and 16. One or two required.....List Price \$.12
 DD17—(For Delco) Carbon Distributor Rotor Brush, without spring, to fit early type. One required.....List Price \$.10
 DD18—(For Delco) Metal Plunger Contact, with spring, to fit in distributor head assemblies DD19, 20, 21 and 22. One required.....List Price \$.10

FOR EISEMANN AND K. W. MAGNETOS
AND KINGSTON DISTRIBUTOR
Including Springs

(FIG. 21)

FOR KINGSTON DISTRIBUTOR

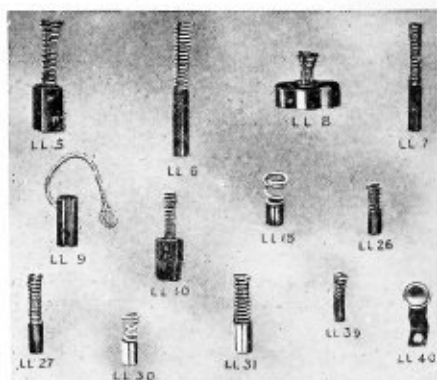
- KK206—Carbon Plunger Contact, with spring, to fit distributor cover KK203. One required.....List Price \$.20

FOR K. W. MAGNETO
Including Springs

- (See Fig. 21)
 KK4—Carbon Distributor Brush, to fit Model HK. One required.....List Price \$.15
 KK5—Carbon Distributor Brush, to fit Model T. Four required.....List Price \$.20
 KK6—Carbon Distributor Cap Plunger Brush, to fit Model HK. One required.....List Price \$.15

FOR EISEMANN MAGNETO
Including Springs

- (See Fig. 21)
 EE6—Gauze Short Circuiting Brush, to fit Types G4, GR4, GS4 and GN6. (All first edition). One required.....List Price \$.20
 EE8—Carbon Distributor Brush, to fit Types EA, EB, ED, EM and EU. One required.....List Price \$.20
 EE10—Carbon Distributor Brush, to fit Type A7. One required.....List Price \$.20
 EE11—Carbon Collector Brush, to fit Type A7. One required.....List Price \$.15
 EE12—Carbon Collector Brush, to fit Types G4, GR4, GN6, first edition; G4 and GR4, second edition; GN6, third edition. One required.....List Price \$.20
 EE14—Carbon Distributor Brush, to fit Types G4, GR4 and GN6, first edition; G4 and GR4, second edition; GN6, third edition. Four or six required.....List Price \$.20
 EE15—Carbon Ground Brush, for breakers, to fit Types EB, EM, G4, GR4, GS4 and GN6, all editions. (Also used as ground brush for drive end on some types.) One required.....List Price \$.25
 EE18—Carbon Ground Brush, to fit Type EM single. (Gear case.) One required.....List Price \$.20
 EE19—Carbon Conductor Brush, in brass shell, to fit Type EM conductor bar. One required.....List Price \$.25
 EE20—Carbon Ground Brush, in brass shell, to fit drive end on Types G4, GR4 and GN6, first edition. One required.....List Price \$.20
 EE28—Carbon Distributor Brush, to fit Type GS4, first and second editions. Also used as collector brush on same type. Four required.....List Price \$.20
 EE29—Short Circuiting Spring, complete with metal contact, to fit end cap on Types G4, GR4 and GS4, second edition; GN6, third edition. One required.....List Price \$.20
 EE30—Carbon Collector Brush, to fit Types EA, EM and EU. One required.....List Price \$.20
 EE31—Carbon Collector Brush, to fit Type ED. One required.....List Price \$.20

FOR AMERICAN-BOSCH MAGNETO
Including Springs

(FIG. 22)

- LL5—Carbon Distributor Brush, to fit all models of D and DR. One required.....List Price \$.11
 LL6—Carbon Collector Brush, to fit all models of D and DR: DU3, 4 and 6, Independent and Dual; ZR4 and 6, old style; DU and ZR, Duplex; ZR, new style. One required.....List Price \$.11
 LL7—Carbon Distributor Brush, to fit Models DU1 and 2. Also used as collector brush on same models and used as Dual brush on Models D and DR. One or two required.....List Price \$.11
 LL8—Carbon Distributor Brush, to fit all Models DU3, 4 and 6, and ZR, new style. One required.....List Price \$.18

As price of Platinum changes almost daily, these quotations are subject to change without notice.

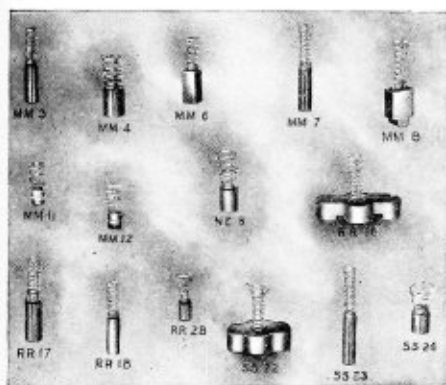
MAGNETO, GENERATOR, IGNITION, ETC., BRUSHES

FOR AMERICAN BOSCH MAGNETO

(See Fig. 22, preceding page)

- LL9—Carbon Ground Brush, with cable, to fit Models ZR, new style, and all models of D, DU and DLT. One required.....List Price .18
- LL10—Carbon Distributor Brush, to fit all models of ZR, old style. One required.....List Price .14
- LL15—Carbon Ground Brush, for interrupters, to fit all models. One required.....List Price .11
- LL26—Carbon Collector Brush, to fit Models NU4, ZE2 and ZEV. Also used as distributor brush on same models. One required.....List Price .11
- LL27—Carbon Collector Brush, to fit Model ZE1. Also used as distributor brush on same model. One or two required.....List Price .11
- LL30—Metal Ground Brush, to fit Models ZR, old style, Independent and Dual. One required.....List Price .14
- LL31—Metal Ground Brush, to fit Models ZR, old style Duplex. One required.....List Price .14
- LL33—Carbon Collector Brush, to fit Model BA1. Also used as distributor brush on same model. One or two required.....List Price .11
- LL40—Carbon Contact Brush, mounted on tension spring for grounding terminal, to fit Models NU4; DU, Independent and ZR, new style. One required. List Price .14

FOR MEA, REMY, SIMMS MAGNETOS Including Springs NORTHEAST AND REMY DISTRIBUTORS



(FIG. 23)

- MM3—Carbon Collector Brush, to fit Models BH, BK and A. One required.....List Price \$.20
- MM4—Carbon Ground Brush, to fit Models BH, BK and A. One required.....List Price .25
- MM6—Carbon Distributor Brush, to fit Models BH and BK. All models. Two required.....List Price .30
- MM7—Carbon Distributor Brush, to fit Model A, six-cylinder. One required.....List Price .20
- MM8—Carbon Distributor Brush, to fit Models BH and BK. All models. Two required.....List Price .20
- MM11—Carbon Conductor Brush, to fit Models BH and BK. One required.....List Price .25
- MM12—Carbon Shorting Brush, to fit Models BH and BK. One required.....List Price .25

FOR NORTHEAST DISTRIBUTOR

- NE5—Carbon Distributor Rotor Brush, with spring, to fit parts NE4 and NE10. One required. List Price \$.35

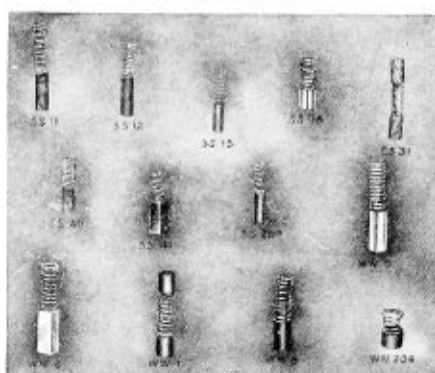
FOR REMY MAGNETO Including Springs

- RR17—Carbon Distributor Brush, to fit Models L and S. One required.....List Price \$.15
- RR18—Carbon Distributor Brush, to fit Models RD and RL. One required.....List Price .15
- RR16—Carbon Distributor Brush, to fit ignition distributor, early type. One required.....List Price .20
- RR26—Carbon Distributor Brush, to fit RR24. One required.....List Price .15

FOR SIMMS MAGNETO Including Springs

- SS22—Carbon Distributor Brush, to fit all types. One required.....List Price \$.16
- SS23—Carbon Collector Brush, to fit all types. One required.....List Price .10
- SS24—Metal Graphite Brush, to fit breakers and commutators on all types. Three required.....List Price .25

FOR SPLITDORF AND DIXIE MAGNETO Including Springs SPLITDORF, WESTINGHOUSE, WAGNER DISTRIBUTORS



(FIG. 24)

FOR SPLITDORF AND DIXIE MAGNETOS Including Springs

- SS11—Gauze Brush, long. Fits all low tension magnetos except Model A. Two required.....List Price \$.17
- SS12—Carbon Distributor Brush. Fits all low tension magnetos. One required.....List Price .17
- SS15—Carbon Distributor Brush. Fits Dixie Models 40, 43, 44, 46, 60, 66, 80, 120, M2 and H. Number required equals number of cylinders.....List Price .17
- SS16—Metal Collector Brush. Fits some low tension models. One required.....List Price .36
- SS31—Twin Gauze Grounding Brush. Fits Models EU, EU4 and EU4-2. One required.....List Price .17
- SS40—Gauze Ground Brush, short. Fits all low tension models except A and AA. One required. List Price .17
- SS41—Carbon Distributor Finger Brush. Fits Dixie Model 41L. One required.....List Price .17
- SS43—Carbon Distributor Brush. Fits Models EU, EU4 and EU4-2. Four required (See cut SS12). List Price .17
- SS44—Metal Collector Brush. Fits Models EU, EU4 and EU4-2. Similar to SS40, except made of metal. (No cut.) One required.....List Price .22

FOR SPLITDORF DISTRIBUTOR

- SS207—Carbon Plunger Contact, with spring, to fit distributor cover SS203. One required.....List Price \$.17

FOR WESTINGHOUSE DISTRIBUTOR Including Springs

- WW5—Metal Conductor Brush, to fit horizontal type. (Can be used in place of WW5.) One required. List Price \$.35
- WW6—Metal Distributor Brush, to fit horizontal type. List Price .40
- WW7—Carbon Distributor Rotor Brush, to fit vertical type. One required.....List Price .35
- WW8—Carbon Conductor Brush, to fit horizontal type. (Can be used in place of WW5.) One required. List Price .30

FOR WAGNER DISTRIBUTOR

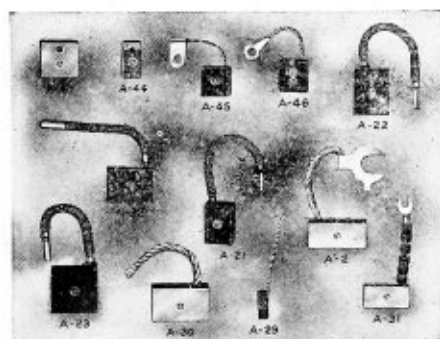
- WW204—Carbon Plunger Contact, with spring, to fit in distributor Cover WW203. One required. List Price \$.25

ADLAKE STARTERS AND GENERATORS

(See Fig. 25, page 192)

- A21—Metal-Graphite. 1"x3/4"x1/4". Insulated pigtail with plug terminal. Four required.....List Price \$1.40
- A22—Metal-Graphite. 3/4"x3/4"x3/4". Insulated pigtail with plug terminal. Four required.....List Price 1.20
- A23—Metal-Graphite. 1"x1"x3/4". Insulated pigtail with plug terminal. Four required.....List Price 1.50
- A28—Metal-Graphite. 3/4"x1"x1/4". Insulated pigtail with plug terminal. Four required.....List Price 1.40
- A29—Graphite. 3/4"x3/16"x3/16". Pigtail leading from side of brush with loop at end of pigtail for terminal.....List Price .50

MAGNETO, GENERATOR, IGNITION, ETC., BRUSHES

FOR A-B-C ADLAKE, ALLIS-CHALMERS
STARTERS AND A-B-C ADLAKE
GENERATORS

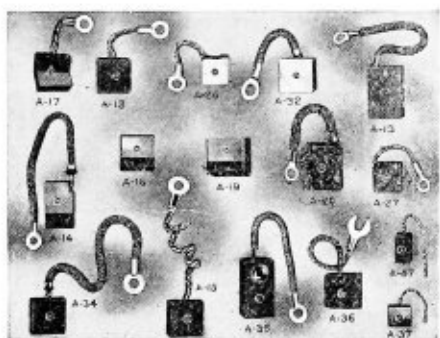
(FIG. 25)

A-B-C STARTERS AND GENERATORS

- A43—Metal. $\frac{3}{4}$ "x $\frac{13}{16}$ "x $\frac{3}{8}$ ". Concave face. One hole. Type AM. List Price \$1.00
 A44—Gauze. $\frac{3}{4}$ "x $\frac{3}{8}$ "x $\frac{1}{4}$ ". One hole. Type A-R MM. List Price .40
 A45—Graphite. $\frac{3}{4}$ "x $\frac{3}{8}$ "x $\frac{5}{16}$ ". Concave face. Pigtail with flag terminal. Type A-WG. List Price .50
 A46—Metal-Graphite. $\frac{3}{4}$ "x $\frac{3}{8}$ "x $\frac{5}{16}$ ". Beveled face. Pigtail with ring terminal. Type A-RMG. List Price .70

ALLIS-CHALMERS STARTERS

- A1—Metal. $\frac{9}{16}$ "x $\frac{11}{16}$ "x $\frac{3}{8}$ ". Pigtail with tinned end. No terminal. Model MG3R. Four required. (See cut A30.) List Price \$1.00
 A2—Metal. $\frac{9}{16}$ "x $\frac{11}{16}$ "x $\frac{3}{8}$ ". Same as A1 except pigtail has special slotted terminal. Four required. List Price 1.20
 A25—Metal. $\frac{3}{4}$ "x $\frac{11}{16}$ "x $\frac{3}{8}$ ". Pigtail with special slotted terminal. (See cut A2.) Four required. List Price 1.50
 A30—Metal. $\frac{3}{4}$ "x $\frac{11}{16}$ "x $\frac{3}{8}$ ". Pigtail with tinned end. No terminal. Four required. List Price 1.50
 A31—Metal. $\frac{1}{2}$ "x $\frac{11}{16}$ "x $\frac{3}{8}$ ". Beaded pigtail with slotted terminal. Model SSR. List Price 1.25

APPLE AND SPLITDORF (APELCO)
STARTERS AND GENERATORS

(FIG. 26)

- A26—Metal. $\frac{3}{4}$ "x $\frac{5}{8}$ "x $\frac{5}{16}$ ". End groove and concave face. Pigtail with ring terminal leading from bevel on corner of brush. Model SU. Four required. List Price \$1.25

APPLE AND SPLITDORF (APELCO)
MOTOR-GENERATORS

- A17—Metal-Graphite. $\frac{13}{16}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Angle type. Beveled end. Pigtail with ring terminal. Models A25, A28 and A29. Two required. List Price \$1.30
 A18—Metal-Graphite. $\frac{13}{16}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Face beveled. Pigtail with ring terminal. Two required. List Price .90
 A32—Metal. $\frac{3}{4}$ "x $\frac{3}{8}$ "x $\frac{3}{8}$ ". Beveled end. Pigtail with ring terminal. Two required. List Price 1.00

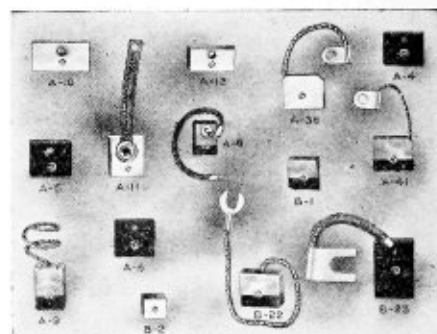
APPLE AND SPLITDORF (APELCO)
GENERATORS

(See Fig. 26)

- A13—Graphite. $\frac{13}{16}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Cotton covered pigtail with ring terminal. Two required. List Price \$.75
 A14—Graphite (copper gauze center). $\frac{13}{16}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Cotton covered pigtail with ring terminal leading from shoulder on corner of brush. Models B1, B1 $\frac{1}{2}$ and B2. Two required. List Price 1.30
 A15—Graphite. $\frac{3}{4}$ "x $\frac{3}{8}$ "x $\frac{3}{8}$ ". Pigtail with ring terminal. Two required. List Price .45
 A16—Graphite. $\frac{13}{16}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Beveled end. No pigtail. Model AB2. Two required. List Price .30
 A19—Graphite. $\frac{3}{4}$ "x $\frac{3}{8}$ "x $\frac{3}{8}$ ". Beveled end. No pigtail. Model A19. Two required. List Price .36
 A20—Graphite. $\frac{13}{16}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Cotton covered pigtail with ring terminal. Model A21 $\frac{1}{2}$. Four required. List Price .45
 A27—Graphite. $\frac{3}{4}$ "x $\frac{3}{8}$ "x $\frac{5}{16}$ ". Face concave. Pigtail with ring terminal leading from bevel on corner of brush. Model SU1. List Price .80
 A34—Graphite. $\frac{3}{4}$ "x $\frac{3}{8}$ "x $\frac{3}{8}$ ". Same as A15 except with cotton covered pigtail with ring terminal. Two required. List Price .75
 A35—Graphite. $\frac{13}{16}$ "x $\frac{11}{16}$ "x $\frac{3}{8}$ ". Cotton covered pigtail with ring terminal. Model B3. List Price .85
 A36—Graphite. $\frac{13}{16}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Face beveled. Pigtail with slotted terminal leading from side of brush. Model AB2. List Price .75
 A37—Metal-Graphite. $\frac{29}{64}$ "x $\frac{11}{16}$ "x $\frac{7}{32}$ ". Pigtail without terminal. Model MG. Two required. List Price .70
 A47—Metal-Graphite. $\frac{9}{16}$ "x $\frac{5}{16}$ "x $\frac{5}{16}$ ". Pigtail without terminal. Splitdorf motorcycle generator. List Price .50

AUTO-LITE AND BERDON STARTERS
AND GENERATORS

(Also known as Electric Auto-Lite)



(FIG. 27)

AUTO-LITE GENERATORS

(Also known as Electric Auto-Lite)

- A4—Graphite. $\frac{3}{4}$ "x $\frac{5}{8}$ "x $\frac{9}{32}$ ". One hole and beveled end. Model G429. Two required. List Price \$.20
 A5—Graphite. $\frac{3}{4}$ "x $\frac{5}{8}$ "x $\frac{3}{8}$ ". One hole and concave end. Models G-SR, G-SU and G-A. Two required. List Price .22
 A6—Graphite. $\frac{13}{16}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". One hole and beveled end. Models GD, GG and GH. Two required. List Price .20
 A8—Graphite. $\frac{11}{16}$ "x $\frac{1}{2}$ "x $\frac{3}{8}$ ". Cotton covered pigtail, no terminal. Concave end. Model GBS. Two required. List Price .35
 A9—Graphite. $\frac{13}{16}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Two top slots, concave end. Pigtail without terminal. Model G60. Two required. List Price .50
 A39—Same as A6, except has longer bevel. List Price .20
 A40—Same as A6, except has concave end. Control Model G-H. List Price .20
 A41—Graphite. $\frac{3}{4}$ "x $\frac{5}{8}$ "x $\frac{9}{32}$ ". Concave end. One side bevel. Pigtail with flag terminal. Model GJ. List Price .40
 A42—Graphite. $\frac{3}{4}$ "x $\frac{5}{8}$ "x $\frac{3}{8}$ ". Concave end. One side bevel. Pigtail with flag terminal. Control Model GJ. (See cut A-41.) List Price .40

MAGNETO, GENERATOR, IGNITION, ETC., BRUSHES

AUTO-LITE STARTERS

(See Fig. 27, page 192)

- A10—Metal. $\frac{3}{8}$ "x $\frac{1}{4}$ "x $\frac{5}{16}$ ". One hole and concave end. Model MC37. Four required.....List Price \$.70
- A11—Metal. $\frac{3}{8}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Two flat braided pigtails bolted to brush. Hole in tails for terminal. Concave end. Model GP. Two required.....List Price .90
- A12—Metal. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{5}{16}$ ". One hole and concave end. Models ME and MF. Four required.....List Price .30
- A38—Metal. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{3}{8}$ ". Concave face. Two side bevels. Pigtail with flag terminal.....List Price .60

BERDON STARTERS

(Also known as Esterline)

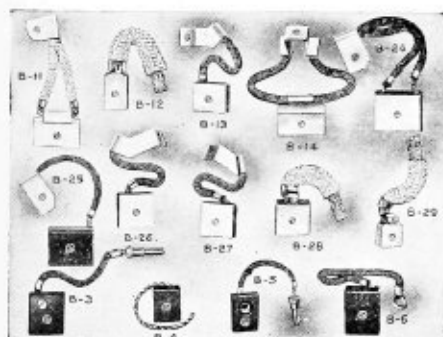
- B2—Metal. $\frac{7}{16}$ "x $\frac{1}{2}$ "x $\frac{3}{8}$ ". Tapped hole and concave end. Eight required.....List Price \$.60
- B23—Metal-Graphite. $\frac{1}{4}$ "x $\frac{3}{8}$ "x $\frac{7}{16}$ ". Cotton covered pigtail with large flat slotted terminal leading from side of brush.....List Price 1.30

BERDON GENERATORS

(Also known as Esterline)

- B1—Metal-Graphite. $\frac{3}{8}$ "x $\frac{3}{8}$ "x $\frac{3}{8}$ ". Concave end. Models H and G. Two required.....List Price \$.60
- B22—Metal-Graphite. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{3}{8}$ ". Pigtail with slotted terminal.....List Price .80

BIJUR STARTERS AND MOTOR GENERATORS



(FIG. 28)

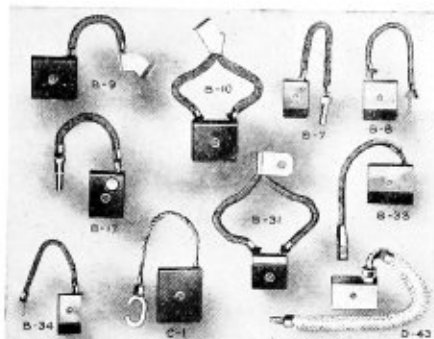
BIJUR STARTERS

- B11—Metal. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{1}{4}$ ". Two cotton covered pigtails attached to one flat terminal. Tails fastened to top of brush by metal plate. Models A44 and M291. Four required.....List Price \$1.50
- B12—Metal. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{5}{16}$ ". Flat braided asbestos covered pigtail attached to top of brush by flat-headed screw. Type B. Four required.....List Price 1.30
- B13—Metal. $\frac{3}{8}$ "x $\frac{3}{4}$ "x $\frac{1}{4}$ ". Cotton covered pigtail with special angle terminal. Models A37, M69, etc. Four required.....List Price 1.25
- B14—Metal. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{1}{4}$ ". Two cotton covered pigtails attached to one special saddle terminal with one hole. Four required.....List Price 2.00
- B24—Metal. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{1}{4}$ ". Double cotton covered pigtails attached to one flat terminal. Convex top. Models MC1213 and M157. Four required.....List Price 1.20
- B25—Metal-Graphite. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{1}{4}$ ". Cotton covered pigtail with flat terminal. Convex top. Control brush on Models MC1213 and M157. One required.....List Price 1.10
- B26—Metal. $\frac{3}{8}$ "x $\frac{3}{4}$ "x $\frac{1}{2}$ ". Cotton covered pigtail with special angle terminal. Terminal faces to right. Type C3, etc. (For number required see B27.).....List Price 1.20
- B27—Metal. $\frac{3}{8}$ "x $\frac{3}{4}$ "x $\frac{1}{2}$ ". Same as B26, except terminal faces to left. Two B26s and two B27s required.....List Price 1.20
- B28—Metal. $\frac{3}{8}$ "x $\frac{3}{4}$ "x $\frac{5}{16}$ ". Flat braided asbestos covered pigtail attached to top of brush by flat-headed screw. Models C-8-M285 and C-9-M-333.....List Price 1.50
- B29—Metal. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{5}{16}$ ". Asbestos covered pigtail attached to top of brush by flat headed screw. Type F.....List Price 1.00

BIJUR MOTOR GENERATORS

- B3—Metal-Graphite. $\frac{3}{8}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Pigtail with plug terminal. Two required.....List Price \$.90
- B4—Metal-Graphite. $\frac{3}{8}$ "x $\frac{3}{4}$ "x $\frac{1}{4}$ ". Pigtail without terminal. Two required.....List Price .50
- B5—Metal-Graphite. $\frac{1}{4}$ "x $\frac{1}{2}$ "x $\frac{3}{8}$ ". Cotton covered pigtail with plug terminal. Top of brush convex. Models L61, M255, etc. Two required.....List Price .95
- B6—Metal-Graphite. $\frac{1}{2}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Pigtail with ring terminal. Two required.....List Price 1.00

BIJUR MOTOR GENERATORS AND GENERATORS, CHALMERS-ENTZ AND DEACO STARTERS



(FIG. 29)

BIJUR MOTOR GENERATORS

- B9—Metal-Graphite. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{1}{4}$ ". Cotton covered pigtail attached to special angle terminal. Same as B10 except with single pigtail.....List Price \$1.40
- B10—Metal-Graphite. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{1}{4}$ ". Two cotton covered pigtails attached to one special angle terminal. Terminal faces to right. Models MG1213, M153, etc.....List Price 1.50
- B35—Metal-Graphite. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{1}{4}$ ". Same as B10, except terminal faces to left. Models MG1213, M153, etc. Two B10 and two B35 required. (See cut B10.).....List Price

BIJUR GENERATORS

- B7—Metal-Graphite. $\frac{1}{4}$ "x $\frac{3}{8}$ "x $\frac{5}{16}$ ". Cotton covered pigtail with plug terminal. Top of brush convex. Control brush for Models L61, M255, etc. One required.....List Price \$.90
- B8—Metal-Graphite. $\frac{3}{8}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Cotton covered pigtail with plug terminal. Top of brush convex. Control brush for Models K620, K621, K639, M134 and M450. One required.....List Price .90
- B17—Metal-Graphite. $\frac{1}{2}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Cotton covered pigtail with plug terminal. Top of brush convex. Used on Models K620, K621, H66, M71, etc.....List Price 1.00
- B31—Metal-Graphite. $\frac{1}{4}$ "x $\frac{3}{8}$ "x $\frac{5}{16}$ ". Two cotton covered pigtails attached to one terminal. Tails fastened to brush with metal plate. Models M339, MG 1213, etc. Four required.....List Price 1.00
- B32—Metal-Graphite. $\frac{1}{4}$ "x $\frac{3}{8}$ "x $\frac{5}{16}$ ". Two cotton covered pigtails attached to one terminal. Tails fastened to top of brush with metal plate. Control brush for Model B100. (See cut B31.) One required.....List Price .95
- B33—Metal-Graphite. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{5}{16}$ ". Cotton covered pigtail with flag terminal. Top of brush convex. Control brush for Models MG1212, MG125, etc. One required.....List Price .85
- B34—Metal-Graphite. $\frac{3}{8}$ "x $\frac{1}{2}$ "x $\frac{5}{16}$ ". Pigtail without terminal. Control brush. One required.....List Price .75
- B49—Metal-Graphite. $\frac{1}{2}$ "x $\frac{3}{4}$ "x $\frac{3}{8}$ ". Pigtail with plug terminal. Top of brush convex. (See cut B17.) Two required.....List Price 1.00

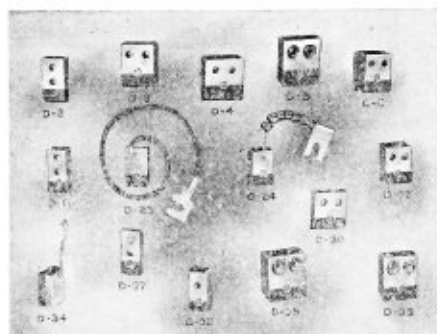
CHALMERS-ENTZ & DEACO STARTERS

- C1—Metal-Graphite. $\frac{1}{4}$ "x $\frac{1}{2}$ "x $\frac{1}{4}$ ". Pigtail with "C" shape terminal. Beveled end. Models 24, 26, 29 and 298. Four Required.....List Price .40
- D43—Metal. $\frac{1}{2}$ "x $\frac{1}{2}$ "x $\frac{1}{2}$ ". Asbestos covered pigtail without terminal. Concave end. Models G-FA, T-AR, etc. Four required.....List Price 1.25

As price of Platinum changes almost daily, these quotations are subject to change without notice.

MAGNETO, GENERATOR, IGNITION, ETC., BRUSHES

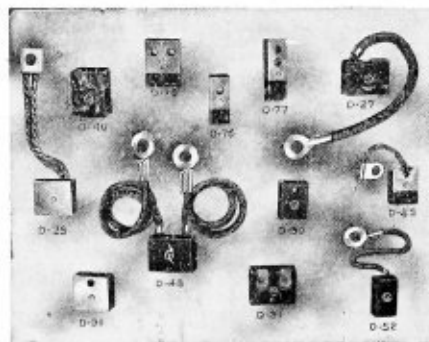
DELCO GENERATORS



(FIG. 30)

- D2—Metal-Graphite.** $1\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$ ". Two holes tandem. Concave end. Two required. **List Price** \$.29
- D3—Graphite.** $1\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$ ". Two holes (not counter-sunk). Concave end. Models MG4 and MG13. Two required. **List Price** .30
- D4—Graphite.** $1\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$ ". Two holes (not counter-sunk). Concave end. Two required. **List Price** .28
- D5—Graphite.** $1\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$ ". Two holes (counter-sunk). Two required. **List Price** .30
- D6—Metal-Graphite.** $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{8}$ ". Two holes. Concave end. Model MG59. Two required. **List Price** .28
- D11—Metal-Graphite.** $1\frac{1}{2} \times \frac{7}{16} \times \frac{5}{16}$ ". Two holes tandem. Concave end. Control brush. One required. **List Price** .20
- D23—Graphite.** $\frac{3}{4} \times \frac{1}{2} \times \frac{3}{16}$ ". Pigtail $12\frac{1}{2}$ " long leading from side of brush. Slotted terminal. Control brush on Model 70. One required. **List Price** .80
- D24—Graphite.** $\frac{3}{4} \times \frac{1}{2} \times \frac{3}{8}$ ". Beaded pigtail leading from side of brush. Slotted terminal. One required. **List Price** .75
- D30—Graphite.** $\frac{3}{4} \times \frac{3}{8} \times \frac{1}{2}$ ". Two holes and concave end. Two required. **List Price** .28
- D32—Metal-Graphite.** $\frac{3}{4} \times \frac{3}{8} \times \frac{3}{8}$ ". Two holes. Concave end. Used on separate unit generator. Two required. **List Price** .30
- D33—Graphite.** $1\frac{1}{2} \times \frac{3}{8} \times \frac{3}{8}$ ". Two holes counter-sunk. Concave end. Model MG4. Two required. **List Price** .30
- D34—Graphite.** $\frac{3}{4} \times \frac{3}{8} \times \frac{1}{2}$ ". With $1\frac{1}{2}$ " pigtail, no terminal. Model 61. **List Price** .50
- D37—Metal-Graphite.** $1\frac{1}{2} \times \frac{7}{16} \times \frac{3}{16}$ ". Two holes tandem. Concave end. Control. One required. **List Price** .18
- D38—Metal-Graphite.** $1\frac{1}{2} \times \frac{7}{16} \times \frac{5}{16}$ ". One hole. Concave end. Control. One required. **List Price** .20
- D39—Graphite.** $1\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$ ". Two holes counter-sunk. Concave end. Model MG1. **List Price** .30
- D41—Graphite.** $\frac{3}{4} \times \frac{3}{8} \times \frac{3}{16}$ ". Pigtail $11\frac{1}{2}$ " long leading from side of brush. Slotted terminal. Control brush. (See cut D23.) One required. **List Price** .75
- D42—Graphite.** $\frac{3}{4} \times \frac{3}{8} \times \frac{3}{16}$ ". Pigtail $8\frac{1}{2}$ " long leading from side of brush. Slotted terminal. Control brush Model 70 Generator. (See cut D23.) One required. **List Price** .70
- D46—Graphite.** $1\frac{1}{2} \times \frac{3}{8} \times \frac{3}{8}$ ". Two holes (not counter-sunk). Holes $28\frac{1}{2}$ " center to center. Concave end. (See cut D3.) Two required. **List Price** .30

DELCO GENERATORS, DETROIT ELECTRIC STARTERS AND GENERATORS



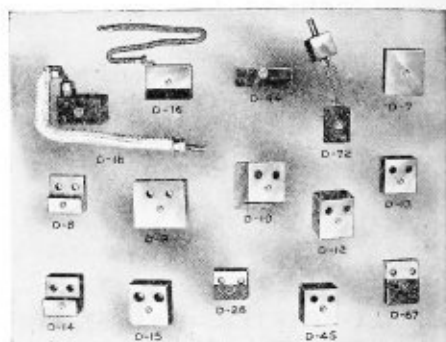
(FIG. 31)

DELCO GENERATORS

(See Fig. 31)

- D40—Metal-Graphite.** $1\frac{1}{2} \times \frac{3}{4} \times \frac{1}{2}$ ". One hole. Face beveled. **List Price** \$.60
- D75—Graphite.** $1\frac{1}{2} \times \frac{3}{4} \times \frac{1}{2}$ ". Two holes. Beveled end. Control brush. One required. **List Price** .25
- D76—Graphite.** $1\frac{1}{2} \times \frac{7}{16} \times \frac{5}{16}$ ". One hole. Beveled end. Control brush. One required. **List Price** .25
- D77—Graphite.** $1\frac{1}{2} \times \frac{7}{16} \times \frac{5}{16}$ ". Two holes tandem. Beveled end. Control brush. One required. **List Price** .25

DEACO GENERATORS AND DELCO STARTERS



(FIG. 32)

DEACO GENERATORS

- D16—Metal-Graphite.** $\frac{3}{4} \times \frac{1}{2} \times \frac{5}{32}$ ". Cotton covered pigtail without terminal. Control brush on Models SL-R, T-AR and T-BR. One required. **List Price** \$.70
- D18—Metal-Graphite.** $9/16 \times 1\frac{1}{2} \times \frac{1}{2}$ ". Asbestos covered pigtail without terminal. Tail detachable: screws into brush; concave end. Model U-SC. Four required. **List Price** 1.00
- D44—Graphite.** $39/64 \times \frac{1}{2} \times \frac{3}{16}$ ". Starting switch control. Face beveled to $1/64$ ". Model U-SG. Illustration not to scale. Two required. **List Price** .10
- D73—Metal-Graphite.** $\frac{3}{4} \times \frac{1}{2} \times \frac{5}{16}$ ". Pigtail with spring and screw terminal. Two required. **List Price** .80

DELCO STARTERS

- D7—Metal.** $1\frac{1}{2} \times \frac{3}{8} \times \frac{5}{16}$ ". Plain brush. Concave end. Two required. **List Price** \$.60
- D8—Metal.** $13/16 \times \frac{3}{8} \times \frac{3}{8}$ ". Shoulder. Two holes and concave end. Upper brush. Two required. **List Price** .60
- D9—Metal.** $1\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$ ". Two holes and concave end. Two required. **List Price** 1.25
- D10—Metal.** $1\frac{1}{2} \times \frac{3}{8} \times \frac{11}{16}$ ". Two holes and concave end. Two required. **List Price** 1.30
- D12—Metal.** $\frac{3}{4} \times \frac{3}{8} \times \frac{3}{8}$ ". Two holes and concave end. No bevel. As used on Cadillac. Two required. **List Price** .70
- D13—Metal.** $13/16 \times \frac{3}{8} \times \frac{3}{8}$ ". Two holes and concave end. Upper brush. Used on Model G56. One required. **List Price** .50
- D14—Metal.** $13/16 \times \frac{3}{8} \times \frac{5}{16}$ ". Shoulder. Two holes and concave end. Lower brush. Model G56. One required. **List Price** .60
- D15—Metal.** $1\frac{1}{2} \times \frac{3}{8} \times \frac{7}{16}$ ". Two holes and concave end. Two required. **List Price** .70
- D26—Bronze Gauze.** $11/16 \times \frac{3}{8} \times \frac{3}{8}$ ". Two holes and concave end. Four required. **List Price** .40
- D45—Metal.** $13/16 \times \frac{3}{8} \times \frac{9}{16}$ ". Two holes and concave end. **List Price** 1.00
- D66—Metal.** $\frac{3}{4} \times \frac{3}{8} \times \frac{3}{8}$ ". Two holes and shoulder. (See cut D14.) **List Price** .50
- D67—Bronze Gauze.** $\frac{3}{4} \times \frac{3}{8} \times \frac{1}{2}$ ". Two holes. Four required. **List Price** .45
- D75—Metal.** $11/16 \times \frac{3}{8} \times \frac{1}{2}$ ". Same as D26, except made of metal. Four required. **List Price** .60
- D74—Metal.** $\frac{3}{4} \times \frac{3}{8} \times \frac{1}{2}$ ". Same as D67, except made of metal. Four required. **List Price** .60
- D83—Metal.** $\frac{3}{4} \times \frac{3}{8} \times \frac{3}{8}$ ". Same as D12, except concave beveled end, as used on Buick. **List Price** .70

DETROIT ELECTRIC GENERATORS

(See Fig. 31)

- D25—Metal-Graphite.** $\frac{3}{4} \times \frac{3}{8} \times \frac{5}{16}$ ". Pigtail leading from side of brush. Flat terminal. End groove and concave end. Model AG. Two required. **List Price** \$.60
- D31—Metal-Graphite.** $\frac{3}{4} \times \frac{1}{2} \times \frac{3}{8}$ ". Two holes drilled for detachable pigtails. (Tails not included.) Concave end. **List Price** 1.00
- D50—Metal-Graphite.** $13/16 \times \frac{3}{8} \times \frac{5}{16}$ ". One hole and concave face. **List Price** .60
- D52—Metal-Graphite.** $13/16 \times \frac{3}{8} \times \frac{3}{8}$ ". Pigtail with ring terminal. Two required. **List Price** .75

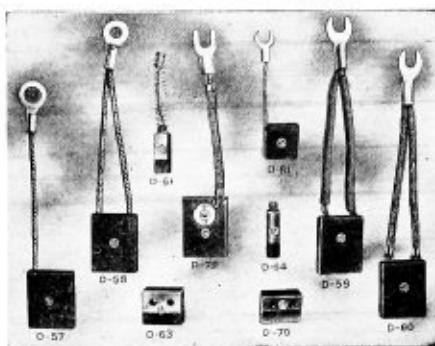
MAGNETO, GENERATOR, IGNITION, ETC., BRUSHES

DETROIT ELECTRIC STARTERS

(See Fig. 31 on preceding page)

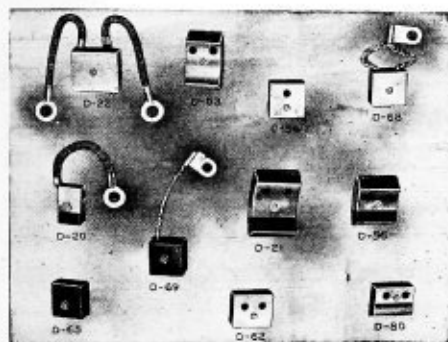
- D27—Metal-Graphite. $\frac{3}{4}$ "x1"x $\frac{3}{4}$ ". Cotton covered pigtail 5" long with flat terminal. End groove and concave end. Models PS, QS and RS. Three required. List Price \$1.00
- D28—Metal-Graphite. $\frac{3}{4}$ "x1"x $\frac{3}{4}$ ". Cotton covered pigtail 8" long with flat terminal. End groove and concave end. (See cut D27.) One required. List Price .10
- D29—Metal. $\frac{3}{4}$ "x $\frac{7}{8}$ "x5/16". Two pigtails from corner of brush with round terminal. Model AM, etc. Four required. List Price 1.20
- D47—Metal. $\frac{3}{4}$ "x1"x $\frac{3}{4}$ ". Two cotton covered pigtails with ring terminals. (See cut D22.) Four required. List Price 1.75
- D48—Metal-Graphite. $\frac{3}{4}$ "x1"x $\frac{3}{4}$ ". Two cotton covered pigtails with ring terminals. Tails 5" long. Used on Models MS and NS. Four required. List Price 1.35
- D49—Metal-Graphite. $\frac{3}{4}$ "x1"x $\frac{3}{4}$ ". Two cotton covered pigtails 8" long with ring terminals. Models MS, NS, RS and PS. (See cut D48.) List Price 1.50
- D51—Metal. $\frac{3}{4}$ "x13/16"x $\frac{3}{4}$ ". One hole and concave end. List Price .70

DYNETO MOTOR GENERATORS AND GENERATORS



(FIG. 34)

DISCO AND DYNETO STARTERS, DISCO GENERATORS AND MOTOR GENERATORS



(FIG. 33)

DISCO STARTERS

- D22—Metal. $\frac{3}{4}$ "x1"x $\frac{3}{4}$ ". Two cotton covered pigtails with ring terminals. Concave end. Model 6E. Two required. List Price \$1.75
- D53—Metal. $\frac{1}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Curved brush with two holes in holder end. Concave face. Model 32. List Price 1.75
- D54—Metal. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". One hole in center near top of brush. List Price .70
- D68—Metal. $\frac{3}{4}$ "x $\frac{3}{4}$ "x17/16". Two pigtails attached to one terminal. Concave face. Two required. List Price 1.20

DYNETO STARTERS

- D63—Metal. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Two holes and concave end. Types U and V. Two required. List Price \$.80
- D69—Metal. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Beveled end. Curved and shouldered. Two holes. List Price 1.00

DISCO MOTOR GENERATORS

- D21—Metal-Graphite. $\frac{1}{4}$ "x1"x $\frac{3}{4}$ ". Curved brush with two holes in holder end. Concave face. List Price \$1.60
- D55—Metal-Graphite. 1-5/32"x1"x $\frac{3}{4}$ ". Curved brush with two holes in holder end. Concave face. (See cut D21.) List Price 1.50

DISCO GENERATORS

- D20—Metal-Graphite. $\frac{3}{4}$ "x1"x $\frac{3}{4}$ ". Cotton covered pigtail with ring terminal. Side groove for pigtail. Concave end. Two required. List Price \$.80
- D65—Metal-Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". One hole in center near top of brush. List Price .60
- D56—Metal-Graphite. $\frac{1}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Curved brush with two holes in holder end. Concave face. Control brush for Model 32G. List Price 1.40
- D69—Metal-Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x17/16". Pigtail with flat terminal. Two required. List Price .75

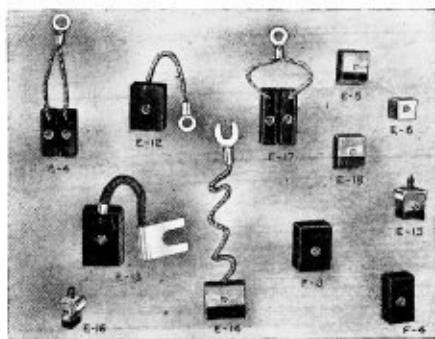
DYNETO MOTOR GENERATORS

- D57—Metal-Graphite. $\frac{1}{4}$ "x1"x $\frac{3}{4}$ ". Pigtail with ring terminal. Four required. List Price \$.80
- D58—Metal-Graphite. $\frac{1}{4}$ "x1"x $\frac{3}{4}$ ". Two bare pigtails attached to one slotted terminal. Four required. List Price .90
- D59—Metal-Graphite. $\frac{1}{4}$ "x1"x $\frac{3}{4}$ ". Double rubber covered pigtails with one slotted terminal. Four required. List Price 1.00
- D60—Metal-Graphite. $\frac{1}{4}$ "x1"x $\frac{3}{4}$ ". Two cotton covered pigtails with one slotted terminal. Model D-S-L. Two required. List Price 1.00
- D61—Graphite. 1"x5/16"x $\frac{3}{4}$ ". Headed brush. Pigtail with spring and headed terminal. Control. One required. List Price .60
- D64—Graphite. 1-3/16" long and 5/16" diameter. Headed. Control brush. One required. List Price .20
- D79—Metal-Graphite. $\frac{1}{4}$ "x1"x $\frac{3}{4}$ ". Two pigtails in cotton cover out of recess at top corner of brush. Slotted terminal. Four required. List Price 1.00

DYNETO GENERATORS

- D63—Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Two holes and concave end. Types U and V. List Price \$.50
- D70—Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Curved brush shouldered. Two holes, concave end. Types C and D. Two required. List Price .60
- D71—Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Curved brush shouldered. Two holes and concave end. Type "C". (See cut D70.) One required. List Price .60
- D81—Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Pigtail with slotted terminal. List Price .45
- D82—Same as D81 material. List Price .45

ELECTRO LIGHT AND STARTER, EVER-READY AND FEDERAL DEVICES MOTOR GENERATORS



(FIG. 35)

MAGNETO, GENERATOR, IGNITION, ETC., BRUSHES

GRAY AND DAVIS AND GENEMOTOR
GENERATORS (General Electric)

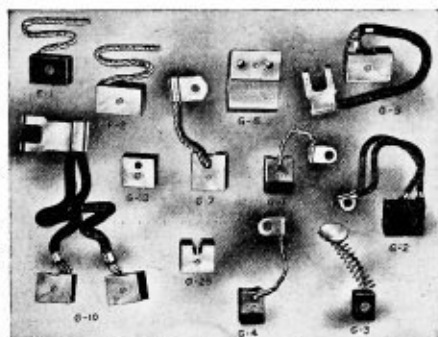
- (See Fig. 5, Page 195)
- E4—Metal-Graphite. $1\frac{1}{2} \times \frac{3}{4} \times \frac{3}{4}$ ". Two brushes fastened to one terminal. Tails lead from side of each brush. Types D and SL. Two pairs required. List Price \$1.50
- E17—Metal-Graphite. $1\frac{1}{2} \times \frac{3}{4} \times \frac{3}{4}$ ". Two brushes fastened to one terminal. Tails lead from side of each brush. Two pairs required. List Price 1.30
- E12—Metal-Graphite. $1 \times \frac{3}{4} \times \frac{3}{4}$ ". Pigtail with ring terminal. Concave end. List Price 1.00

EVER-READY MOTOR GENERATORS

- (See Fig. 35, Page 195)
- E15—Metal-Graphite. $\frac{5}{8} \times \frac{1}{2} \times \frac{1}{2}$ ". Metal cap with threaded stud fastened to top of brush. Concave end. Type G18. Two required. List Price \$.80
- E16—Graphite. $9/16 \times \frac{1}{2} \times \frac{1}{2}$ ". Metal cap with threaded stud fastened to top of brush. Control brush on Type G18. One required. List Price .70

FEDERAL DEVICES MOTOR GENERATORS

- (See Fig. 35, Page 195)
- F3—Metal-Graphite. $1 \times \frac{3}{4} \times \frac{1}{2}$ ". One hole. List Price \$.75
- F4—Metal-Graphite. $1 \times \frac{3}{4} \times \frac{1}{2}$ ". One hole. Model 48. List Price .70

FISHER ELECTRIC, GRAY AND DAVIS
STARTERS AND GENERATORS

(FIG. 36)

FISHER ELECTRIC

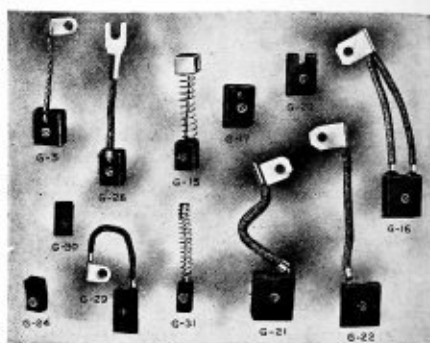
- F1—Graphite. $\frac{5}{8} \times \frac{1}{2} \times \frac{1}{2}$ ". Pigtail without terminal. Hole in top of brush. Two required. List Price \$.60
- F2—Metal. $\frac{5}{8} \times \frac{1}{2} \times \frac{1}{2}$ ". Pigtail without terminal. Hole in top of brush. Two required. List Price \$.90

GRAY AND DAVIS STARTERS

- G7—Metal. $\frac{5}{8} \times \frac{1}{2} \times \frac{1}{2}$ ". Heavy pigtail with flat terminal. End groove, and concave end. Types Y and YL. Two required. List Price \$1.10
- G8—Metal. $1-11/32$ " long. $11/32$ " at top and $1/4$ " at bottom. Curved brush with two holes and concave end. Type MG9. Two required. List Price .90
- G9—Metal. $\frac{5}{8} \times 1 \times \frac{1}{2}$ ". Cotton covered pigtail with large open terminal. Pigtail screws into brush. End groove and concave end. Type K. List Price 1.50
- G10—Metal. $\frac{5}{8} \times \frac{1}{2} \times \frac{1}{2}$ ". Two brushes with cotton covered pigtails fastened to one open flat terminal. End groove and concave end on each brush. Type H2. Two pairs required. List Price 2.50
- G12—Metal. $13/16 \times 1 \times \frac{1}{2}$ ". Cotton covered pigtail with large open terminal. Pigtail screws into brush. End groove and concave end. Types H and H1. (See cut G9.) Four required. List Price 1.60
- G13—Metal. $21/32 \times \frac{1}{2} \times \frac{1}{2}$ ". One hole. Type 119. Two required. List Price .65
- G25—Metal. $21/32 \times \frac{1}{2} \times \frac{1}{2}$ ". Top slot. Two required. List Price .60

GRAY AND DAVIS GENERATORS

- G1—Metal-Graphite. $25/32 \times \frac{5}{8} \times 5/16$ ". Pigtail leading from side of brush. Flag terminal. End groove and concave end. Types T and S. Two required. List Price \$.60
- G2—Metal-Graphite. $\frac{3}{4} \times 7/16 \times \frac{3}{4}$ ". Two brushes with cotton covered pigtails fastened to one flag terminal. End groove and concave end on each brush. Models G, G1 and E. Two pairs required. List Price 1.00
- G3—Metal-Graphite. $\frac{5}{8} \times 7/16 \times \frac{3}{4}$ ". Pigtail with spring and $\frac{5}{8}$ " disc terminal. Concave end. Model C1. Two required. List Price .80
- G4—Metal-Graphite. $\frac{3}{4} \times \frac{1}{2} \times \frac{3}{4}$ ". Pigtail leading from side of brush. Flag terminal. End groove and concave end. Type X. Two required. List Price .60



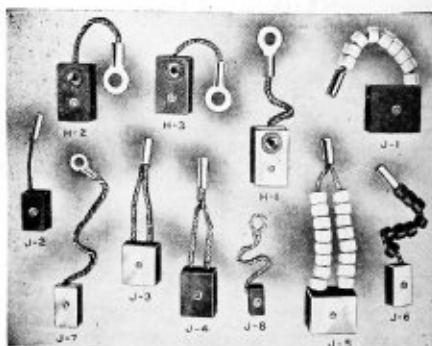
(FIG. 37)

GRAY AND DAVIS GENERATORS

- G5—Metal-Graphite. $\frac{5}{8} \times \frac{1}{2} \times \frac{1}{2}$ ". Pigtail from side of brush. Flag terminal. End groove and concave end. Two required. List Price \$.80
- G15—Metal-Graphite. $\frac{5}{8} \times 7/16 \times \frac{3}{4}$ ". Pigtail with spring and square brass block terminal. Concave end. Type C1. Two required. List Price 1.30
- G17—Metal-Graphite. $15/16 \times \frac{1}{2} \times 5/16$ ". One hole and concave end. Type 220, early. Two required. List Price .50
- G20—Metal-Graphite. $15/16 \times \frac{1}{2} \times 5/16$ ". $11/64$ " groove on top of brush. Concave end. Type 220. New style. List Price .60
- G24—Graphite. $\frac{3}{4} \times \frac{1}{2} \times \frac{1}{2}$ ". Curved brush. One hole. Concave face. Old style control brush. One required. List Price .50
- G28—Metal-Graphite. $\frac{3}{4} \times \frac{1}{2} \times \frac{1}{2}$ ". Cotton covered pigtail with ring terminal. List Price .80
- G30—Graphite. $\frac{3}{4} \times \frac{1}{2} \times \frac{1}{2}$ ". Curved brush. One hole. Concave face. New style control brush. One required. List Price .50

GENEMOTOR MOTOR GENERATORS
(General Electric)

- G16—Metal-Graphite. $1 \times \frac{1}{2} \times 7/16$ ". Two cotton covered pigtails to one flag terminal. End groove and concave end. Two required. List Price \$1.20
- G21—Metal-Graphite. $1 \times \frac{1}{2} \times 7/16$ ". Cotton covered pigtail with flag terminal. End groove and concave end. List Price 1.00
- G22—Graphite. $1 \times \frac{1}{2} \times \frac{1}{2}$ ". Cotton covered pigtail with flag terminal. End groove and concave end. Control brush. One required. List Price .80
- G29—Graphite. $1 \times \frac{1}{2} \times \frac{1}{2}$ ". Top slot. Cotton covered pigtail with flag terminal. Beveled end. Control. One required. List Price .80
- G31—Metal-Graphite. $\frac{5}{8} \times 15/16 \times 1/16$ ". Pigtail with spring and headed terminal. Type SD-A. Used on Henderson motorcycle 1916 to 1919, inclusive. List Price .50

JOHN O. HEINZE STARTERS AND
GENERATORS

(FIG. 38)

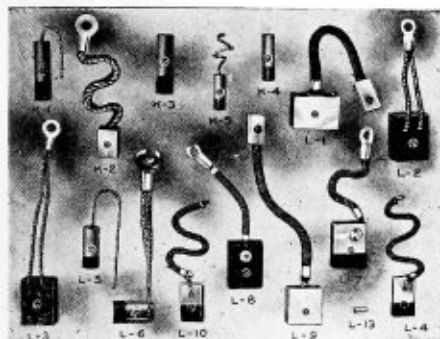
MAGNETO, GENERATOR, IGNITION, ETC., BRUSHES

HEINZE STARTER AND GENERATOR

(See Fig. 38, Page 196)

- H1—Metal. $1\frac{1}{4} \times \frac{3}{8} \times \frac{1}{2}$ ". Pigtail with ring terminal. Concave face. Starter brush. Two required. List Price \$1.69
- H2—Metal-Graphite. $1\frac{1}{4} \times \frac{3}{8} \times \frac{1}{2}$ ". Pigtail and ring terminal. Concave face. Generator brush. Two required. List Price 1.25
- H3—Graphite. $1\frac{1}{4} \times \frac{3}{8} \times \frac{1}{2}$ ". Pigtail and ring terminal. Concave face. Control brush. One required. List Price .85

LEECE-NEVILLE STARTERS AND GENERATORS



(FIG. 39)

LEECE-NEVILLE GENERATORS

- L1—Metal-Graphite. $1 \times \frac{3}{8} \times \frac{1}{2}$ ". Two flat braided pigtails attached to one ring terminal. Concave end. List Price 1.00
- L3—Metal-Graphite. $1 \times \frac{3}{8} \times \frac{3}{8}$ ". Two flat wire pigtails attached to one ring terminal. Concave end. Two required. List Price .90
- L4—Metal-Graphite. $\frac{3}{8} \times \frac{1}{2} \times \frac{5}{32}$ ". Insulated pigtail without terminal. Concave end. Control brush. One required. List Price .60
- L5—Metal-Graphite. $\frac{3}{8}$ " long. $\frac{3}{8}$ " diameter. Pigtail without terminal. One required. List Price .50
- L7—Metal-Graphite. $1 \times \frac{3}{8} \times \frac{1}{2}$ ". Cotton covered pigtail with ring terminal. Concave end. Two required. List Price 1.00
- L8—Metal-Graphite. $1 \times \frac{3}{8} \times \frac{3}{8}$ ". Pigtail with ring terminal. Concave end. Two required. List Price .90
- L10—Metal-Graphite. $\frac{3}{8} \times \frac{1}{2} \times \frac{5}{32}$ ". Cotton covered pigtail without terminal. Face beveled. Control brush. One required. List Price 1.35
- L12—Metal-Graphite. $1 \times \frac{3}{8} \times \frac{1}{2}$ ". Pigtail with ring terminal. Concave end. (See cut L8). List Price .90
- L13—Metal. $\frac{1}{4}$ " long. $9/64$ " diameter. Contact brush. List Price .20

LEECE-NEVILLE STARTERS

- L1—Metal. $\frac{3}{8} \times 1 \times \frac{1}{2}$ ". Cotton covered pigtail with flat terminal. Two end grooves and concave end. Two required. List Price \$1.35
- L6—Metal-Graphite. $\frac{3}{8}$ " long. $\frac{1}{2}$ " diameter. Pigtail with open terminal and fastened to top of brush with metal cap. Concave end. One required. List Price .75
- L9—Metal. $\frac{3}{8} \times \frac{3}{8} \times \frac{1}{2}$ ". Cotton covered pigtail with flat terminal. Two end grooves. Concave end. Two required. List Price 1.35

MENOMINEE

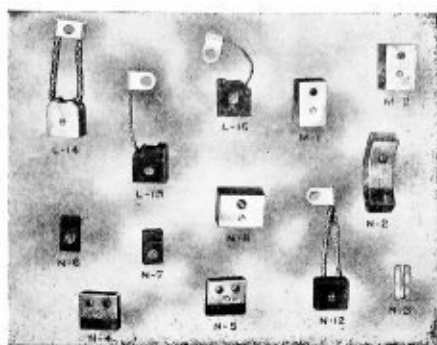
(See Fig. 40)

- M1—Metal. $1 \times \frac{3}{8} \times \frac{7}{16}$ ". One hole. List Price \$.80
- M2—Metal. $1 \times \frac{3}{8} \times \frac{7}{16}$ ". One hole. List Price .90

LIBERTY STARTERS AND GENERATORS

(Ford Equipment)

MENOMINEE, NATIONAL COIL, NORTH EAST STARTERS AND GENERATORS



(FIG. 40)

LIBERTY STARTERS AND GENERATORS

- L14—Metal. $13/16 \times \frac{3}{8} \times \frac{1}{2}$ ". Two pigtails to one special terminal. Two side bevels, end groove and concave end. Starter brush. Two required. List Price \$1.20
- L15—Graphite. $13/16 \times \frac{3}{8} \times \frac{1}{2}$ ". Single pigtail to flag terminal. One side bevel, end groove and concave end. Generator brush. Two required. List Price .60
- L16—Graphite. $13/16 \times \frac{3}{8} \times \frac{1}{2}$ ". Single pigtail to flag terminal. One side bevel, end groove and concave end. Control brush. One required. List Price .55

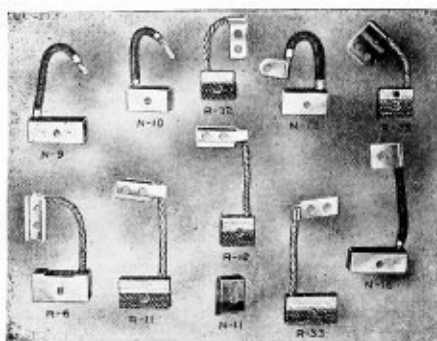
NATIONAL COIL

- N6—Graphite. $\frac{3}{8} \times \frac{7}{16} \times \frac{3}{16}$ ". Shoulder cut out of side of brush. One N6 and one N7 used on Type G-A National system. List Price \$.20
- N7—Metal-Graphite. $\frac{3}{8} \times \frac{7}{16} \times \frac{3}{16}$ ". Same as N6 except material. Refer to N6 for number required. List Price .40
- N8—Metal. $\frac{3}{8} \times 1 \times \frac{1}{2}$ ". Plain brush. One tapped hole. List Price .80

NORTHEAST STARTERS AND GENERATORS

- N2—Metal-Graphite. $1\frac{1}{2} \times \frac{3}{8} \times \frac{5}{16}$ ". Curved brush with one hole and concave end. Motor generator brush. Four required. List Price \$.50
- N3—Graphite. $\frac{3}{8} \times \frac{3}{8} \times \frac{1}{2}$ ". Arcing contact with two edges beveled and groove on back. Copper coated except face. Two required. List Price .30
- N4—Metal-Graphite. $\frac{3}{8} \times \frac{3}{8} \times \frac{1}{2}$ ". Two holes and concave end. Model G. Motor generator brush. Two required. List Price .40
- N6—Graphite. $\frac{3}{8} \times \frac{3}{8} \times \frac{1}{2}$ ". Two holes and concave end. Control brush. One required. List Price .40
- N12—Metal. $11/16 \times \frac{3}{8} \times \frac{5}{16}$ ". Two pigtails to one terminal. Face concave. Starter brush. List Price 1.50

NORTHWESTERN STARTERS AND GENERATORS AND REMY STARTERS



(FIG. 41)

— SEE NEXT PAGE —

MAGNETO, GENERATOR, IGNITION, ETC., BRUSHES

NORTHWESTERN STARTERS AND GENERATORS

(See Fig. 41, Page 197)

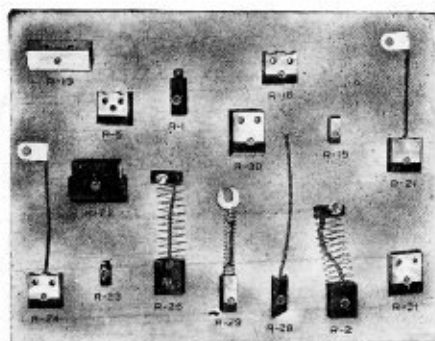
- N9—Metal. $\frac{1}{2}$ "x $\frac{1}{4}$ "x $\frac{3}{8}$ ". Cotton covered pigtail without terminal. Concave end. Starter brush. List Price \$1.25
- N10—Metal. $\frac{1}{2}$ "x $\frac{1}{4}$ "x $\frac{3}{8}$ ". Cotton covered pigtail without terminal. Concave end. Starter brush. List Price 1.10
- N11—Graphite. $\frac{1}{2}$ "x $\frac{1}{4}$ "x $\frac{3}{8}$ ". Beveled end. Generator brush. List Price .40
- N13—Metal. $\frac{1}{2}$ "x $\frac{1}{4}$ "x $\frac{3}{8}$ ". Cotton covered pigtail with terminal. Starter brush. List Price 1.20
- N16—Metal. $\frac{1}{2}$ "x $\frac{1}{4}$ "x $\frac{3}{8}$ ". Cotton covered pigtail terminal. Starter brush. List Price 1.35

REMY STARTERS

(See Fig. 41, Page 197)

- R6—Metal. $\frac{5}{8}$ "x $\frac{1}{4}$ "x $\frac{3}{8}$ ". Pigtail with special terminal with two holes. End groove and concave end. Models 4, 35L and 9. Four required. List Price \$1.30
- R11—Copper Gauze. $\frac{5}{8}$ "x $\frac{1}{4}$ "x $\frac{3}{8}$ ". Pigtail with special terminal with two holes. Models 114, 118 and 188. Two or four required. List Price 1.20
- R12—Copper Gauze. $\frac{9}{16}$ "x $\frac{3}{8}$ "x $\frac{1}{4}$ ". Pigtail with special terminal with two holes. Model 185. Two or four required. List Price 1.00
- R19—Metal. $\frac{1}{2}$ "x $\frac{1}{4}$ "x $\frac{3}{8}$ ". Two tapped holes in top of brush. Concave end. List Price .60
- R32—Copper Gauze. $\frac{9}{16}$ "x $\frac{3}{8}$ "x $\frac{1}{4}$ ". Pigtail with flat terminal with two holes. Two or four required. List Price 1.00
- R33—Copper Gauze. $\frac{5}{8}$ "x $\frac{1}{4}$ "x $\frac{3}{8}$ ". Pigtail with flat terminal with two holes. Two or four required. List Price 1.20
- R35—Copper Gauze. $\frac{9}{16}$ "x $\frac{3}{8}$ "x $\frac{1}{4}$ ". Pigtail with special angle terminal with three holes. Models 304A and 307A. Four required. List Price 1.35
- R36—Same as R35, except made of metal. List Price 1.10
- R37—Metal. $\frac{1}{2}$ "x $\frac{1}{4}$ "x $\frac{3}{8}$ ". Two tapped holes in top of brush. Concave end. List Price 1.00
- R38—Same as R12, except made of metal. List Price 1.10
- R39—Same as R32, except made of metal. List Price 1.10
- R40—Same as R11, except made of metal. List Price 1.30
- R41—Same as R33, except made of metal. List Price 1.30

REMY GENERATORS



(FIG. 42)

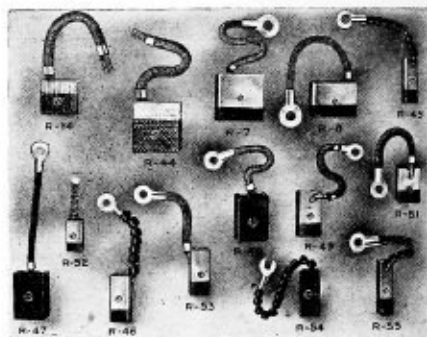
- R1—Graphite. $1 \times \frac{5}{16} \times \frac{5}{16}$ ". Turned neck for spring. Models O, OB and 165. One required. List Price \$.25
- R2—Metal-Graphite. $\frac{3}{4} \times \frac{5}{16} \times \frac{5}{16}$ ". Pigtail with square spring, brass block terminal and screw. Concave end. Used on Models O and OB. Two required. List Price 1.20
- R5—Metal-Graphite. $\frac{3}{4} \times \frac{3}{8} \times \frac{1}{4}$ ". Two end grooves, two holes and concave end. (No pigtail.) Corners chamfered. Main brush. Used on Models 166, 240 and 241. Two required. List Price .50
- R15—Graphite. $\frac{9}{16} \times \frac{1}{4} \times \frac{1}{4}$ ". Plain rectangular brush. Copper coated. Motorcycle type. List Price .30
- R16—Graphite. $\frac{3}{4} \times \frac{3}{8} \times \frac{1}{4}$ ". Two end grooves, two holes and concave end. Chamfered corners. (No pigtail.) Control brush. One required. List Price .45
- R21—Metal-Graphite. $\frac{3}{4} \times \frac{3}{8} \times \frac{1}{4}$ ". Two end grooves. Ring terminal. List Price .90
- R22—Metal-Graphite. $\frac{15}{16} \times \frac{1}{4} \times \frac{3}{8}$ ". Two side shoulders and beveled end. Used on Models 120, 121 and 129. List Price 1.20
- R23—Metal-Graphite. $\frac{1}{4}$ " diameter, $1 \frac{1}{2}$ " long. Headed brush. Used on Model P. List Price .40
- R24—Metal-Graphite. $\frac{3}{4} \times \frac{3}{8} \times \frac{1}{4}$ ". Pigtail with flag terminal. Two end grooves and two holes. Used on Model SL3. List Price 1.10
- R26—Metal-Graphite. $\frac{3}{4} \times \frac{3}{8} \times \frac{5}{16}$ ". With $\frac{9}{32} \times \frac{1}{4}$ " end groove. Pigtail with square spring, brass block terminal and screw. List Price 2.00
- R27—Metal-Graphite. $\frac{3}{4} \times \frac{1}{4} \times \frac{1}{4}$ ". Pigtail without terminal, leading from end groove. (See cut R28.) List Price .50

REMY GENERATORS—Continued

- R28—Metal-Graphite. $\frac{5}{8} \times \frac{5}{16} \times \frac{5}{16}$ ". Pigtail without terminal, leading from end groove. Beveled end. List Price .50
- R29—Graphite. $1 \frac{1}{2} \times \frac{3}{8} \times \frac{5}{16}$ ". Headed brush, with pigtail, spring and open terminal. Control brush. Used on Models O and OB. List Price .25
- R30—Graphite. $1 \times \frac{3}{8} \times \frac{5}{16}$ ". Two holes. Used on Models 254A and 256A. Two required. List Price .40
- R31—Graphite. $1 \times \frac{3}{8} \times \frac{1}{4}$ ". Two holes. Control brush. Used on Models 254A and 256A. One required. List Price .25
- R42—Graphite. $\frac{3}{4} \times \frac{1}{4} \times \frac{1}{4}$ ". Motorcycle generator brush. (See cut R15.) List Price .25
- R43—Graphite. $\frac{3}{4} \times \frac{1}{4} \times \frac{5}{32}$ ". Motorcycle generator control brush. (See cut R15.) List Price .25

RUSHMORE STARTERS AND GENERATORS

(Also known as Bosch Rushmore)



(FIG. 43)

RUSHMORE STARTERS

- R9—Copper Gauze. $1 \frac{1}{16} \times \frac{1}{4} \times \frac{3}{8}$ ". Cotton covered pigtail. No terminal. Four required. (See cut R44.) List Price \$1.30
- R10—Copper Gauze. $\frac{5}{8} \times \frac{5}{16} \times \frac{5}{16}$ ". Cotton covered pigtail. No terminal. (See cut R44.) Four required. List Price 1.10
- R14—Copper Gauze. $\frac{3}{4} \times \frac{3}{8} \times \frac{5}{32}$ ". Cotton covered pigtail without terminal. Four required. List Price 1.00
- R44—Copper Gauze. $1 \times \frac{1}{4} \times \frac{1}{4}$ ". Cotton covered pigtail. No terminal. Type A. List Price 1.10

RUSHMORE GENERATORS

(Also known as Bosch Rushmore)

- R7—Graphite. $1 \times \frac{1}{4} \times \frac{3}{8}$ ". Cotton covered pigtail with ring terminal. Concave end. Used on Rushmore Model No. 2-71 Generator. Two required. List Price \$.75
- R8—Graphite. $\frac{3}{4} \times \frac{1}{4} \times \frac{5}{16}$ ". Cotton covered pigtail with ring terminal. Concave end. Used on Models 1 and 1A. Two required. List Price .65
- R45—Graphite. $1 \times \frac{5}{16} \times \frac{9}{32}$ ". One pigtail insulated with lava beads. Pigtail leads from side of brush. Ring terminal. Concave end. End groove on top of brush. Two required. List Price .60
- R46—Graphite. $1 \times \frac{1}{4} \times \frac{3}{8}$ ". Beaded pigtail leading from side of brush. Ring terminal. End groove on top of brush. Used on Models D81, D82, D83, etc. List Price .75
- R47—Graphite. $1 \times \frac{1}{4} \times \frac{3}{8}$ ". Cotton covered pigtail with ring terminal. Two end grooves and concave end. List Price .75
- R48—Metal-Graphite. $\frac{1}{4} \times \frac{1}{4} \times \frac{3}{8}$ ". Cotton covered pigtail with ring terminal. Two end grooves and concave end. Used on Model D83. List Price .90
- R49—Graphite. $1 \times \frac{1}{4} \times \frac{3}{8}$ ". Cotton covered pigtail leading from slot on top of brush. Round terminal. Concave end. Used on Models D81, D83, D502, etc. List Price .60
- R50—Graphite. $1 \times \frac{1}{4} \times \frac{5}{16}$ ". Cotton covered pigtail with ring terminal. Concave end. (See cut R7.) List Price .70
- R51—Metal-Graphite. $\frac{25}{32} \times \frac{1}{4} \times \frac{3}{8}$ ". Cotton covered pigtail out of side of brush. Ring terminal. Concave end. Used on Models 63 and 64. List Price .50
- R52—Metal-Graphite. $\frac{15}{16} \times \frac{1}{4} \times \frac{3}{8}$ ". Pigtail with spring and $\frac{3}{16}$ " disc terminal. Concave end. Used on Model G1. Motorcycle generator brush. List Price 1.60
- R53—Graphite. $1 \times \frac{1}{4} \times \frac{3}{8}$ ". Cotton covered pigtail leading from side of brush. Ring terminal. End groove. Concave end. List Price .50
- R54—Graphite. $1 \times \frac{3}{8} \times \frac{1}{4}$ ". Beaded pigtail with slotted terminal. List Price .60
- R55—Graphite. $1 \times \frac{1}{4} \times \frac{5}{16}$ ". Beaded pigtail leading from side of brush. Ring terminal. Concave end. Used on Model D. List Price .75

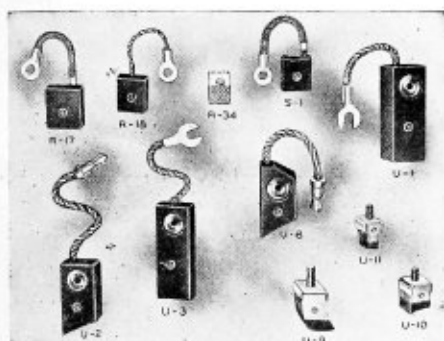
MAGNETO, GENERATOR, IGNITION, ETC., BRUSHES

ROBBINS AND MEYERS, SIMMS-HUFF
MOTOR GENERATORS, U. S. L. & H.
CO. MOTORS AND GENERATORS

U. S. L. & CO. RELAY DISCS

(See Fig. 45)

- U4—Graphite Disc. $1\frac{1}{2}$ " diameter, $\frac{1}{8}$ " thick. Twenty-two required. List Price \$.25
- U5—Graphite Disc. $1\frac{1}{4}$ " diameter, $\frac{1}{8}$ " thick. (Total set consists of fifteen U5s and sixteen U6s.) List Price .20
- U6—Graphite Disc. $1\frac{1}{4}$ " diameter, $1/16$ " thick. (Total set consists of sixteen U6s and fifteen U5s.) List Price .15
- U12—Graphite Disc. $1\frac{1}{4}$ " diameter, $\frac{1}{8}$ " thick. Counter-sunk hole in center of disc. Used as end plate. Two required. List Price .20
- U13—Graphite Disc. $1\frac{1}{2}$ " diameter, $\frac{1}{8}$ " thick. Counter-sunk hole in center of disc. Used as end plate. Two required. List Price .25



(FIG. 44)

ROBBINS AND MEYERS

- R17—Metal-Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Pigtail with round terminal, leading from top of brush. List Price \$.90
- R18—Metal-Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Flat braided wire pigtail, with ring terminal. List Price .75
- R34—Copper Gauze. $\frac{3}{4}$ "x $1\frac{1}{16}$ "x $\frac{1}{4}$ ". One hole. Four required. List Price .40

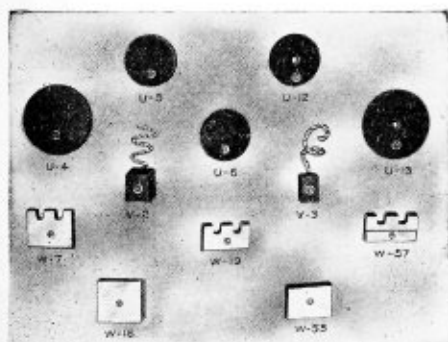
U. S. L. & H. CO. MOTORS AND GENERATORS—(Flywheel Type)

- U1—Metal-Graphite. 2 "x $3\frac{1}{2}$ "x $\frac{3}{4}$ ". Riveted type pigtail, with slotted terminal. Used on Model E12. Eight required. List Price \$2.00
- U2—Metal-Graphite. $1\frac{1}{8}$ "x $1\frac{1}{8}$ "x $\frac{3}{4}$ ". Riveted type pigtail, with special plug terminal. Beveled end. Used on Model E58. Eight required. List Price 1.50
- U3—Metal-Graphite. 2 "x $3\frac{1}{2}$ "x $\frac{3}{4}$ ". Riveted type pigtail, with slotted terminal. Used on Models E4, E11, E19, E20 and E38. Eight required. List Price 1.30
- U7—Metal-Graphite. $1\frac{1}{4}$ "x $1\frac{1}{4}$ "x $\frac{3}{4}$ ". Pigtail with special plug terminal. Top of brush beveled. Beveled end. Used on Model E167. (See cut U8.) List Price 1.60
- U8—Metal-Graphite. $1\frac{1}{8}$ "x $1\frac{1}{8}$ "x $\frac{3}{4}$ ". Pigtail with special plug terminal. Top of brush beveled and concave beveled end. Used on Models E58 and E49. Four required. List Price 1.60
- U9—Metal-Graphite. $1\frac{1}{8}$ "x $1\frac{1}{8}$ "x $\frac{3}{4}$ ". Curved brush. Metal cap with threaded stud fastened to top of brush. Used on Model E196. List Price 1.60
- U10—Metal-Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Metal cap, with threaded stud fastened to top of brush. Concave end. Used on Type G18. List Price .80
- U11—Graphite. $9/16$ "x $1\frac{1}{2}$ "x $\frac{1}{4}$ ". Metal cap, with threaded stud fastened on top of brush. Concave end. Used on Type G18. Control brush. One required. List Price .70

U. S. L. & H. CO. RELAY DISCS FOR REGULATORS

(Types E-4, E-5, E-6, E-7 and E-8)

WAGNER STARTERS



(FIG. 45)

WAGNER STARTERS

(See Fig. 45)

- W1—Metal-Graphite. $1\frac{1}{4}$ "x $1\frac{1}{4}$ "x $\frac{1}{4}$ ". Concave face. Starter end. Used on 1913 Studebaker. Models AA Thirty-five and E Right Drive six. Four required. List Price \$.80
- W7—Metal. $\frac{3}{4}$ "x $1\frac{1}{4}$ "x $\frac{1}{4}$ ". Two top grooves and concave end. Top edges chamfered. Four required. List Price .90
- W18—Metal. $1\frac{1}{8}$ "x $1\frac{1}{8}$ "x $\frac{1}{4}$ ". Concave end, corners chamfered, no end grooves. List Price .70
- W19—Metal. $\frac{3}{4}$ "x $1\frac{1}{4}$ "x $\frac{1}{4}$ ". Two top grooves and concave end. Top edges chamfered. Used on Model 36T3. (Used largely on Studebaker cars.) Four required. List Price .50
- W55—Metal. $1\frac{1}{8}$ "x $1\frac{1}{8}$ "x $\frac{1}{4}$ ". Top edges beveled. Concave face. List Price .50
- W57—Metal. $2\frac{1}{2}$ "x $1\frac{1}{4}$ "x $\frac{1}{4}$ ". Beveled end. Two top slots and side shoulders. List Price .60
- W60—Metal-Graphite. $9/16$ "x $1\frac{1}{2}$ "x $\frac{1}{4}$ ". One hole. Four required. List Price .60

WARD-LEONARD STARTERS

(See Fig. 46, Page 200)

- W26—Metal. 1 "x $3/8$ "x $3/8$ ". Cotton covered pigtail leading from shoulder on side of brush. Convex top and beveled end. Open terminal. Used on Type DS. List Price \$1.50
- W35—Bronze Gauze. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Two holes. List Price .40
- W58—Bronze Gauze. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". One hole. List Price .40
- W41—Metal. $1\frac{1}{8}$ "x $1\frac{1}{8}$ "x $\frac{3}{4}$ ". Two cotton covered pigtails leading from shoulder on each side of brush. Convex top and beveled end. Open terminals. List Price 2.40
- W42—Metal-Graphite. $\frac{3}{4}$ "x $1\frac{1}{4}$ "x $\frac{3}{4}$ ". Two holes drilled for detachable pigtails. (Tails not included.) Concave end. Used on Model RS (Saxon cars). List Price 1.00

WARD-LEONARD GENERATORS

(See Fig. 46, Page 200)

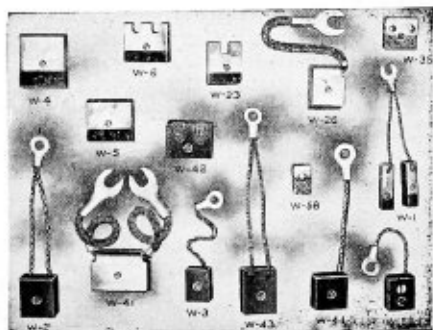
- W1—Metal-Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{1}{4}$ ". Pigtail leading from side of each brush. Two brushes attached to one terminal. Brushes furnished in pairs. Used on Models AX and AL. List Price \$1.00
- W2—Metal-Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Two pigtails leading from top of brush and attached to one terminal. Concave end. Used on Model R. List Price 1.00
- W3—Metal-Graphite. $\frac{3}{4}$ "x $9/16$ "x $\frac{1}{4}$ ". Pigtail with ring terminal. Used on Models AL and AX. List Price .70
- W43—Metal-Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Two pigtails leading from back of brush and attached to ring terminal. Concave end. Used on Model F. List Price 1.00
- W44—Metal-Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Pigtail with ring terminal. List Price 1.00
- W59—Metal-Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $5/16$ ". Pigtail with ring terminal. Beveled end. List Price .70

SIMMS-HUFF MOTOR GENERATOR

- S1—Metal-Graphite. $\frac{3}{4}$ "x $\frac{3}{4}$ "x $\frac{3}{4}$ ". Cotton covered pigtail with ring terminal. End groove and slight concave end. Six required. List Price .60

MAGNETO, GENERATOR, IGNITION, ETC., BRUSHES

WAGNER AND WARD-LEONARD GENERATORS AND WARD-LEONARD STARTERS

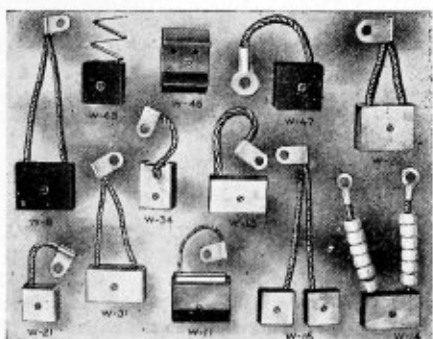


(FIG. 46)

WAGNER GENERATORS

- W4—Metal-Graphite. $1\frac{1}{4} \times 1\frac{1}{4} \times \frac{1}{4}$ ". Concave face. Used on Type EM101. Four required. List Price \$.80
- W5—Graphite. $\frac{3}{4} \times 1\frac{1}{4} \times \frac{1}{4}$ ". Concave end, chamfered corners. No end grooves. Four required. List Price .30
- W6—Graphite. $\frac{3}{4} \times 1\frac{1}{4} \times \frac{1}{4}$ ". Concave end and top corners chamfered. Two end grooves. Four required. List Price .40
- W23—Graphite. $15/16 \times 3/4 \times 3/4$ ". $3/16 \times 3/4$ " groove in top of brush. Corners chamfered and concave end. Three required. List Price .30
- W51—Metal-Graphite. $13/16 \times 1\frac{1}{4} \times \frac{1}{4}$ ". One hole. (See cut W58.) Four required. List Price .70

WESTINGHOUSE STARTERS AND MOTOR GENERATORS



(FIG. 47)

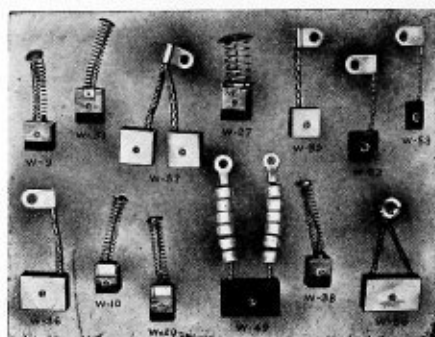
WESTINGHOUSE STARTERS

- W13—Metal. $\frac{3}{4} \times 1\frac{1}{4} \times \frac{1}{4}$ ". Single pigtail attached to flat terminal. Concave end. Used on Models 300 and 320. List Price \$1.00
- W14—Metal. $\frac{3}{4} \times 1\frac{1}{4} \times \frac{1}{4}$ ". Two beaded pigtails, each with separate ring terminal. Used on Models 501, 502, 503, 531, 532 and 533. List Price 1.75
- W16—Metal. $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ ". Two brushes, each with single pigtail, attached to one flat terminal. Concave ends. Brushes furnished in pairs. Used on Models 310, 320 and 350. List Price 1.80
- W21—Metal. $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ ". Single pigtail with flat terminal. Concave end. Used on Models 700, 750 and 710. List Price 1.00
- W31—Metal. $\frac{3}{4} \times 1\frac{1}{4} \times \frac{1}{4}$ ". Two pigtails attached to one flat terminal. Concave end. Used on Models 300 and 320. List Price 1.20
- W32—Metal. $\frac{3}{4} \times 1\frac{1}{4} \times \frac{1}{4}$ ". Two 3" pigtails attached to one flat terminal. Concave end. (For cut, see W31.) List Price 1.20
- W34—Metal. $1 \times \frac{3}{4} \times \frac{3}{4}$ ". Pigtails leading from side of brush, with flat terminal. End groove and concave end. End slot. Frame 755. List Price 1.00

WESTINGHOUSE MOTOR GENERATORS

- W8—Metal-Graphite. $1 \times 1\frac{1}{4} \times \frac{3}{4}$ ". Two pigtails attached to one flat terminal. Model 600. List Price \$1.00
- W11—Graphite. $1 \times 1\frac{1}{4} \times \frac{3}{4}$ ". Small wire pigtail with flat terminal. Tail attached to brush with copper saddle. Model 600. Control brush. One required. List Price .70
- W22—Metal. $1 \times 1\frac{1}{4} \times \frac{3}{4}$ ". Two pigtails attached to one flat terminal. Concave end. Model 600. Two required. List Price 1.50
- W48—Metal. $1 \times 1\frac{1}{4} \times \frac{3}{4}$ ". Two 3" pigtails attached to one flat terminal. Concave end. (See cut W22.) Two required. List Price 1.50

WESTINGHOUSE STARTERS AND GENERATORS, WHITE-ENTZ



(FIG. 48)

WESTINGHOUSE STARTERS

- W36—Metal. $\frac{3}{4} \times 1\frac{1}{4} \times \frac{3}{4}$ ". Pigtail with flat terminal. Concave end. Used on Model 775. List Price \$1.10
- W37—Metal. $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ ". Tails $1\frac{1}{2}$ " long. Two brushes on one terminal. (One W16 and one W37 used on Frames 310, 311, 320 and 350.) List Price 1.80
- W49—Metal-Graphite. $\frac{3}{4} \times 1\frac{1}{4} \times \frac{3}{4}$ ". Two beaded pigtails, each with separate ring terminal. Concave end. Used on Models 310 and 330. List Price 1.60
- W50—Metal. $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ ". Single pigtail with flag terminal. Concave end. Used on Model 100. List Price .85
- W56—Metal. $\frac{3}{4} \times 1\frac{1}{4} \times \frac{3}{4}$ ". Two shunts. One special threaded ring terminal. Concave face. Frames 300 and 318. List Price 1.30

WESTINGHOUSE GENERATORS

- W9—Graphite. $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ ". Headed brush. Pigtail with spring and $\frac{3}{4}$ " disc terminal. Concave end. Used on Models 230, 240, 208, 236, 246, 261 and 280. List Price \$.70
- W10—Graphite. $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ ". Pigtail with spring and $\frac{3}{4}$ " disc terminal. Pigtail fastened to brush with copper saddle. Two side shoulders and concave end. List Price .70
- W20—Graphite. $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ ". Pigtail with spring and $\frac{3}{4}$ " disc terminal. Pigtail fastened to brush with copper saddle. Two side shoulders and concave end. Used on Models 201 and 205. Two required. List Price .70
- W27—Graphite. $23/32 \times \frac{3}{4} \times \frac{3}{4}$ ". Pigtail with large spring and special cap terminal. Pigtail fastened to brush with metal plate. Spring $\frac{3}{4}$ " diameter, terminal $13/16$ " diameter. Concave end. Used on Models 400 and 450. Two required. List Price 1.00
- W33—Graphite. $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ ". Pigtail with spring and $\frac{3}{4}$ " disc terminal. Used on Model 750. Control brush. List Price .70
- W38—Graphite. $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ ". Headed brush, with pigtail, spring and $\frac{3}{4}$ " disc terminal. Concave end. Used on Models 500 and 521. List Price .60
- W52—Graphite. $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ ". Pigtail with flag terminal. Concave end. Used on Models 760, 150, 780R and 761R. Two required. List Price .50
- W53—Graphite. $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ ". Pigtail with flag terminal. Two bevels on commutator end. Used on Models 760, 150, 780R and 761R. One required. List Price .45

WHITE-ENTZ

- W54—Metal-Graphite. $1\frac{1}{4} \times 1 \times \frac{3}{4}$ ". Pigtail with ring terminal. Four required. List Price \$.70

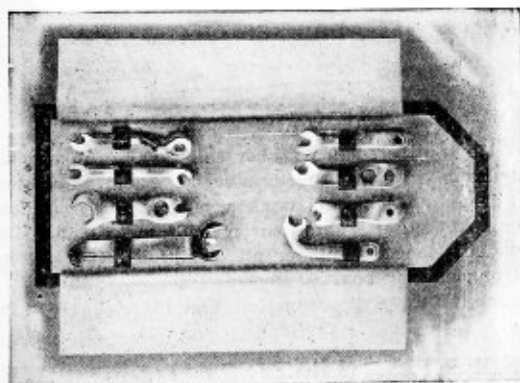
COIL FILES



For cleaning contact points on ignition, lighting, etc., systems, and spark plugs. Made extra thin, with fine cut teeth for accurate work. Packed one dozen in box; or mounted one dozen on neat counter display easel.

Coil Files (in box). List Price, per doz.....\$1.90
Coil Files (on easel). List Price, per doz..... 2.00

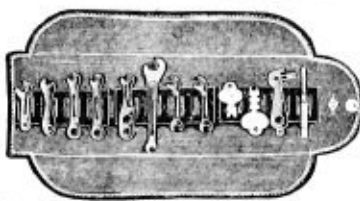
MAGNETO WRENCH KIT



Consisting of seven wrenches of the proper size for adjusting the breaker contact points on Bosch, Elsemann, Remy, Splittorf, Mea, Delco, and other magneto or generator systems and cam lifter. These wrenches are accurately made of the best quality tool steel and will exactly fit the different nuts, a point of great importance in accurate work of this kind. The set comes in neat leatherette covered case that is just the right size to fit in the pocket.

These wrenches sold only in sets.
Magneto Wrench Kit complete. List Price.....\$2.00

MAGNETO WRENCH AND KEY KIT



Consists of 12 different tools especially adapted for magneto, etc., repairs and adjustments. Outfit includes Magneto Wrenches,

Keys, Screw Driver and Contact Aligner, enabling repairs on following systems: Bosch, Connecticut, Delco, Ford, Elsemann, Remy, Simms and Splittorf. Set comes in neat flexible cloth case.

Magneto Wrench and Key Kit complete.

List Price\$2.50

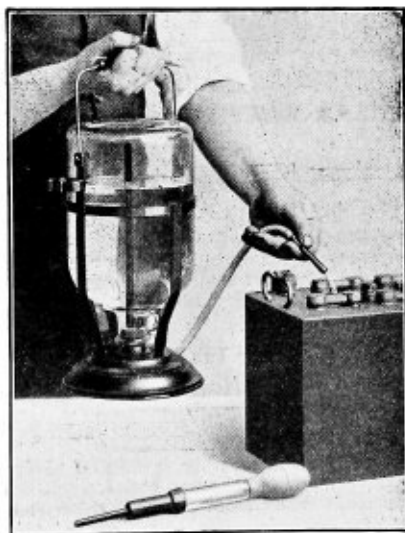
HYDRO BATTERY FILLER



A convenient, inexpensive battery filler, largely used in garages and battery service stations. Made with heavy corrugated rubber bulb and black rubber nozzle. Bulb capacity, 8 oz. Length over all, 11".

Hydro Battery Filler. List Price, Each.....\$1.10

RELIABLE BATTERY FILLER



The most convenient way of handling "battery service." Consists of a strong metal stand, equipped with handle, as shown in illustration. Sturdy rubber hose with syringe nozzle is furnished, enabling the battery to be refilled with a minimum amount of rubber. So constructed that metal does not come in contact with water. No dust or dirt. Clean, fast, easily operated. Made for use with any 1-gallon capacity bottle.

Reliable Battery Filler, complete with 1-Gal. Bottle.

List Price\$5.00

Hydrometers

BREAK-NOT BATTERY HYDROMETER

Break-Not



BATTERY TESTER

A hydrometer syringe, consisting of a glass jar with an acid-proof rubber tip and red rubber bulb of extra large capacity. The Hydrometer float is absolutely accurate, with a large, easily readable, specific gravity scale, making the Break-Not Hydrometer equally valuable in the hands of a novice or an experienced battery man. Packed in heavy pasteboard mailing tube, size 9 x 1 3/4".

Break-Not Hydrometer. List Price, Each.....\$1.25

Hydrometer Float only. List Price, Each......35

Glass Chamber only. List Price, Each......25

BATTERY HYDROMETER



No. 2 Testometer Outfit

A larger sized Hydrometer intended for battery service stations, etc. Heavy ribbed rubber bulb, capacity 8 oz. Glass jar is extra large to prevent Hydrometer sticking to sides. Outfit is packed in a neat wooden box, size 3 x 3 x 14".

Battery Hydrometer No. 2 Testometer Outfit.

List Price, Each.....\$3.00

Hydrometer Float only. List Price, Each......35

Glass Chamber only. List Price, Each......25

MOELLER BATTERY HYDROMETER



Made with extra large glass float chamber, insuring accurate readings and preventing float from sticking to wall. Chamber made of heavy molded glass with best quality rubber bulb and nozzle.

Moeller Battery Hydrometer. List Price, Each.....\$1.25

GASOLINE HYDROMETER

No. 5



Consists of an accurately calibrated Hydrometer with glass test jar. Packed in round wood box. Hydrometer scale reads from 50 to 70 degrees specific gravity.

No. 5 Gasoline Hydrometer. List Price.....\$.40

FREEZOMETER



A very convenient little Hydrometer which permits the accurate testing of non-freezing alcohol solution in auto radiators. Scale shows the percentage of alcohol necessary to prevent freezing at required temperature. Full directions with each outfit.

Freezometer, as illustrated. List Price.....\$.75

WORKRITE BATTERY HYDROMETER OUTFIT



Outfit consists of the regular Workrite Battery Hydrometer, as described above, and equipped with a 1-quart glass jar for handling distilled water. Provides the right sized bottle for carrying distilled water, and the large collar on the Workrite Hydrometer keeps the jar dust- and evaporation-proof. Instructions for use are printed on label.

Packed in individual corrugated paper box.

Workrite Battery Hydrometer. List Price.....\$1.50

LUTHY UNBREAKABLE BATTERY HYDROMETER



Made of the finest celluloid instead of glass, making it really unbreakable. Unaffected by acid. Easily read. Absolutely accurate. Equipped with large rubber bulb.

Luthy Unbreakable Battery Hydrometer.

List Price, Each.....\$1.50

WORKRITE BATTERY HYDROMETER



Made with square rubber collars at each end of Hydrometer, preventing breakage if the Hydrometer is dropped. A slotted washer inside acts as cushion for floats and prevents uneven readings. Float easily readable, accurate under all conditions. Packed in strong mailing box.

Workrite Battery Hydrometer. List Price, Each, \$1.25

INDESTRUCTO BATTERY HYDROMETER



A simplified, protected, syringe type hydrometer which is made with square rubber plug at syringe end which prevents rolling off table and consequent breakage. Heavy rubber bulb reinforced at opening and seam; 4" float with 1100-1300° readings. Scale is marked in red at "full," "half," and "empty." Length over all, 11". Packed in sliding cover wooden box.

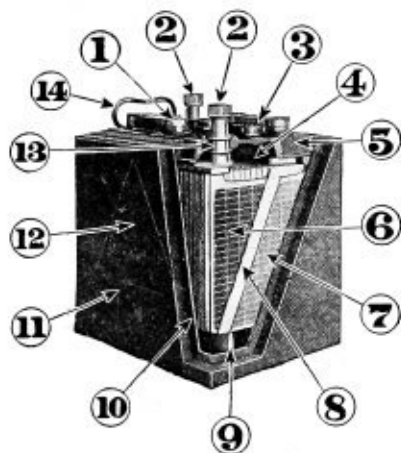
List Price, Each.....\$.90

Columbia Storage Battery

1. **PYRAMID SEAL:** This Columbia Pyramid Seal is stamped on the cell connectors of every Columbia Storage Battery. This Seal unbroken is protection against premature battery failure.
2. **UNIVERSAL TERMINAL POST:** Adapters or Terminals are attached to the Post and held in place by a Terminal Nut. Columbia installations are therefore made without the use of lead burning or extensive tool equipment.
3. **VENT PLUG:** Large threaded type with vents around the vertical surface. Prevents spraying of acid during charge and impurities from entering the cell.

4. ACID SPACE:

Provided by the cover construction is exceptionally large so that a reserve quantity of electrolyte may at all times be maintained in each cell. This reduces to a minimum the liability of damage to the cell due to infrequent addition of distilled water.



5. MOULDED JAR

COVER: Hard rubber reinforced so that breakage is reduced to a minimum. Polarity of each cell marked on both ends of the cover. This type of cover requiring less jar sealing compounds permits maximum cooling effect.

6. **POSITIVE PLATES:** Develop exceptional capacity for maximum life. The grid construction is an improved Bradbury or lattice type giving increased conductivity, strength and durability.
7. **NEGATIVE PLATES:** Balance the exceptional capacity of the positive plates and insure maximum life of element. The grid construction is the same as used with the positive plates.
8. **SEPARATOR:** Columbia Separators are made from carefully selected wood. This material insures maximum Porosity, Life, and Battery Capacity under all conditions of service.
9. **JAR RIB:** Each Jar contains four Ribs on which the plates and separators rest. This evenly distributes the weight of the element which reduces the liability of jar breakage and plate trouble. The height of the ribs molded provides ample space for sediment to collect without interfering with the action of the cell.
10. **JAR:** Made of highest quality hard rubber, thoroughly tested.
11. **CASE:** Made of carefully seasoned hardwood. Each case is thoroughly treated with a high grade acid resisting paint, case corners are mortise-tenon, glued and Dowel-pinned.
12. **NUMBER:** Battery Type Number is branded on each battery.
13. **RIVETED POST SEAL:** Plate Strap Posts are firmly riveted into the reinforced molded cover insuring a rigid and perfect alignment between elements and cover. This prevents acid creepage up the posts and eliminates all vibration or movement of element in the cell, thus increasing the natural battery life.
14. **HANDLE:** Round steel handles heavily plated with copper and lead and then coated with acid resisting paint are securely anchored into the hardwood case. There are no fastenings to be exposed to corrosion. These handles will sustain 25 times the weight required without injury.

PITTSBURGH AUTO EQUIPMENT CO.

COLUMBIA STORAGE BATTERIES

Year	Model	Type Bat.	List Price	Year	Model	Type Bat.	List Price
1913-14-15.....	34-40 Touring.....	H-319-AB-6	\$64.60	1914-15.....	H-4, L-6.....	D-315-AZ	57.25
1913-14-15.....	44-50S Roadster.....	D-319-AB-6	64.60	1916.....	H-4.....	D-313-AZ	47.25
1916.....	8-80.....	H-319-AZ	64.60	1916-17.....	490.....	R-311-AO	44.65
1916.....	8-80.....	H-313-AZ	47.25	1917.....	Baby Grand.....	D-313-AZ	47.25
1916-17.....	6-44.....	R-311-AZ	44.65	1918.....	490.....	R-311-AO	44.65
				1918.....	F-A.....	R-313-AW	50.95
				1919.....	490.....	R-311-AO	44.65
				1919.....	490.....	R-311-AZ	44.65
ALLEN				COLE			
1915-16.....	33-34, 35, 37.....	H-313-AZ	47.25	1913.....	4-40, 4-50, 6-60.....	G-123-H	87.15
1916-17.....	37.....	D-313-AZ	47.25	1914-15.....	9-4, 9-6, Big Six.....	C-313-DF	64.60
1918.....	41.....	R-313-AO	50.95	1915.....	10-4, Stg. 4, Lt. 6.....	R-313-AZ	50.95
1919.....	All.....	D-313-AO	47.25	1916.....	4-40, 6-60, 8-50.....	R-313-AZ	50.95
AMERICAN SIX				1917.....	8-60.....	R-313-AE	50.95
1916-17.....	A Series 1.....	R-313-AZ	50.95	1918.....	870, 871, 872.....	R-313-AO	50.95
1918.....	B.....	R-313-AW	50.95	1919.....		R-313-AO	50.95
1919.....		R-313-AB5	50.95	COLUMBIA			
ANDERSON				1917.....	A.....	R-311-AW	44.65
1916-17.....	Series 12.....	D-313-AZ	47.25	1918.....	C and D.....	R-311-AW	44.65
1918.....	20.....	D-313-AZ	47.25	1919.....		R-311-AW	44.65
APERSON				CRAWFORD			
1913.....	4-45, 4-55.....	I-311-AB3	47.25	1913-14.....		I-311-AB3	47.25
1914.....	4-45, 4-55.....	D-313-AZ	53.05	1913-14.....		D-313-AZ	47.25
1914.....	6-60, 6-45.....	D-313-AZ	47.25	1915-16.....		D-313-AZ	47.25
1915.....	4-40, 6-48.....	D-313-AZ	47.25	1917.....	6-17-40.....	R-311-AW	44.65
1916.....	4-40, 6-60.....	D-313-AZ	47.25				
	6-48, 6-58.....	D-313-AZ	47.25				
1917.....	6-17, 8-17.....	D-313-AZ	47.25				
1918.....	8-18.....	R-311-AW	44.65				
1919.....		R-311-AW	44.65				
AUBURN							
1915.....	6-40.....	R-311-AX	44.65				
1915.....	6-40.....	R-313-AF	50.95				
1916.....	6-40A.....	R-313-AZ	50.95				
1916.....	4-38, 6-38.....	R-311-AX	44.65				
1917.....	6-39.....	R-311-AX	44.65				
1917.....	6-44.....	R-313-AZ	50.95				
1918.....	6-39.....	R-311-AW	44.65				
1919.....		R-311-AW	44.65				
BELL							
1916.....	A-16.....	D-313-AZ	47.25				
1916.....	A-16.....	D-67-KSV	59.35				
1917.....	A-17.....	D-313-AZ	47.25				
1918-19.....		R-311-AO	44.65				
BOUR-DAVIS							
1916-17.....	16, 17.....	D-313-AZ	47.25				
BRISCOE							
1914-15.....	14, 15.....	D-67-KSV	59.35				
1915.....	15.....	H-67-KSV*	59.35				
1916.....	4-38, 8-38.....	D-67-LHV	59.35				
1917.....	4-24.....	D-313-DZ	47.25				
1918.....	B-4-24.....	D-313-DE	47.25				
BUICK							
1914-15.....	{ B-24, B-25, B-36, B-37, B-54, B-55, C-24, C-26 }	R-313-DZ	50.95				
1915.....	C-26, 37, 54, 55-4.....	R-313-AZ	50.95				
1916.....	D-44, 45, 46, 47.....	R-311-AZ	44.65				
1916.....	D-54, D-55.....	R-313-AZ	50.95				
1917-18.....	All.....	R-311-AE	44.65				
1919.....	E-45.....	R-313-AW	50.95				
CADILLAC							
1912.....	1912.....	G-123-H	87.15				
1913.....	13.....	I-315-AB3C	60.90				
1914-15-16.....	14, 51, 53.....	C-313-DF	64.60				
1917.....	55.....	C-313-DE	64.60				
1918-19.....	57.....	C-313-DE	64.60				
CASE							
1914.....	O.....	H-319-AB7	64.60				
1914.....	S.....	H-315-AB7	53.05				
1914-15.....	R.....	H-313-AB7	47.25				
1916.....	T.....	H-313-AZ	47.25				
1917.....	T.....	D-313-AZ	47.25				
1918.....	U.....	R-311-AX	44.65				
1918.....	U.....	R-313-AZ	50.95				
1919.....		R-313-AB5	50.95				
CHALMERS							
1914-15-16.....	{ 24, 26, 26-B, 29, Master Six, 6-48 }	H-90-GA12C	105.00				
1915-16-17.....	32, 6-40.....	R-311-AQZ	44.65				
1917.....	35, 6-30.....	R-311-AQZ	44.65				
1918-19.....		R-311-AQZ	44.65				
CHANDLER							
1913-14-15.....		H-313-AB6	47.25				
1916.....	17 Series 10,000.....	D-313-AZ	47.25				
1917.....	Series 18.....	R-311-AW	44.65				
1918-19.....	All.....	R-311-AW	44.65				
1919.....		R-313-AW	50.95				
CHEVROLET							
1914.....	H-4, L-6.....	H-319-AB6	64.60				

* Battery thus indicated can only be supplied on thirty-day delivery.

COLUMBIA STORAGE BATTERIES—Continued

ELGIN				INDIANA TRUCK			
Year	Model	Type Bat.	List Price	Year	Model	Type Bat.	List Price
1916.....	6	R-311-AZ	44.65	1916.....	S	D-313-AZ	47.25
1917.....	Series 1917	R-313-AB5	50.95	1916.....	D, R, and L	D-319-AZ	64.60
1918.....	A-6 Cyl.	R-311-AX	44.65	INTERNATIONAL-MACK TRUCK			
EMPIRE				1916-17-18.....	F and H	D-69-KSZ	70.90
1914.....	31-40	D-69-KSZ	70.90	INTERSTATE			
1915.....	33	I-69-FNX	77.70	1915.....	T	D-313-AZ	47.25
1916.....	45, 60, 70	D-313-DZ	47.25	1916.....	T	R-311-AX	44.65
1916-17.....	50 and 70-A	D-313-AZ	50.95	1917-18.....	T, TC, TD, TR, TR-4	R-311-AZ	44.65
1917-18.....	Starting and Lighting System	R-311-AO	44.65	JACKSON			
FORD				1915.....	44, 46	D-315-AV6	53.05
1915-16-17-18.....	Westinghouse	R-67-KSV	63.00	1915.....	48	R-313-AF	50.95
1915-16.....	Gray & Davis D U	H-311-JSZ	41.50	1916.....	34, 348	D-313-AB6	47.25
1915.....	Gray & Davis S U	R-311-AQZ	44.65	1916.....	68	D-315-AZ	53.05
1916-17-18.....	Northeast	H-69-YSA8*	70.90	1917.....	3-49	R-311-AZ	44.65
1916-17.....	Disco	R-313-AE	50.95	1917.....	3-50	D-313-AB6	47.25
1916-17.....	Dynecto	D-67-KSV	59.35	JEFFREY (NASH)			
1916.....	Dynecto	D-67-KSG	59.35	1914-15.....	4	R-611-LR	87.15
1916-17.....	Heinz Springfield	D-313-AZ	47.25	1914.....	6	E-127-TA3	110.25
1917-18.....	Gray & Davis	R-311-AO	44.65	1915.....	Chesterfield 6	D-315-AZ	53.05
1917-18.....	Ever Ready	D-67-KSV	59.35	1916.....	4-62 Chesterfield 6	R-313-AZ	50.95
1917-18.....	Genelite Lighting	LD-35-A	23.00	1917.....	All	D-313-AZ	47.25
1918.....	Heinz	D-313-AO	47.25	JORDAN			
1919-20.....	Ford 6-Volt	R-311-AE	44.65	1916-17.....	B Series 1	R-313-AZ	50.95
FRANKLIN				1918-19.....	C	R-313-AZ	50.95
1913-14.....	Series 2, 3, 4, 5	H-97-GA12	85.05	1919.....	F	R-313-AW	50.95
1914-15-16.....	Series 6, 7, 8	H-611-KSV6	81.40	KELLY-SPRINGFIELD TRUCK			
1916-17-18-19.....	Series 9	R-67-KSV	63.00	1914-15-16.....		D-315-AB6	53.05
GARFORD TRUCK				KING			
1914-15-16.....		D-313-AZ	47.25	1914.....	V	H-313-AB6	47.25
1916.....	66, 70, 70-B, 70-C, 75	D-315-AZ	53.05	1915.....	C	D-313-AZ	47.25
1917.....	70-C, 77-B	D-315-AZ	53.05	1916-17.....	D, E	R-311-AZ	44.65
1917.....		D-319-AZ	64.60	1918.....	F	R-311-AW	44.65
G M C TRUCKS				KISSEL KAR			
1917.....	15, 21, 31, 41, 71, 101	R-313-AW	50.95	1914-15.....	4-36, 6-42	D-315-AZ	53.05
1917.....	15, 21, 31, 41, 71, 101	R-311-AW	44.65	1915.....	4-36, 6-42	R-313-AZ	50.95
GLIDE				1916-17.....	4-32, 6-42	R-311-AZ	44.65
1913.....	36, 42	D-313-AB6	47.25	1918.....	100 Pt. 6	R-313-AZ	50.95
1914.....	30, 36	D-313-AZ	47.25	1919.....		R-311-AO	44.65
1915.....	30	D-313-DZ	47.25	KLINE KAR			
1916-17-18-19.....	Lt. 6-40	D-313-DZ	47.25	1915.....	6-42, 6-42-A	H-319-AB6	64.60
GRAMM-BERNSTEIN				1916.....	6-36	R-311-AZ	44.65
1914.....		I-313-AZ	47.25	1917-18.....	6-38, Series F	R-311-AW	44.65
1914.....		D-313-AB6	47.25	1919.....		R-311-AW	44.65
1915.....		D-313-AZ	47.25	LEXINGTON-HOWARD			
GRAMM				1915.....	M	H-315-AZ	53.05
1914-15-16.....		D-313-AZ	47.25	1916.....	G-N	R-313-DZ	50.95
1916.....		D-315-AZ	53.05	1916-17.....	9	R-311-AX	44.65
1917.....	66, 70, 70-B, 70-C, 75	D-315-AZ	53.05	1917.....	6-P	R-313-DZ	50.95
1917.....	70-C, 77-B	D-319-AZ	64.60	1918.....	R	R-311-AW	44.65
GRANT				1919.....		R-311-AW	44.65
1916.....	U	D-313-DZ	47.25	LIBERTY			
1917.....	K	R-311-AZ	44.65	1916-17.....	10-A	R-311-AZ	44.65
1918.....	G	R-311-AX	44.65	1918.....	10-B	R-311-AW	44.65
1919.....	H	R-313-AO	50.95	LIPPARD-STEWART			
1919.....		R-311-AO	44.65	1915-16-17.....	M	R-67-KSV	63.00
H A L				1915-16-17.....	{ B, C, D, BW, }	I-69-UNZ	77.70
1917.....	21	D-315-AB6	53.05	1916.....	{ CW, DW }		
HAYNES				1916.....	MB, MW	R-311-AX	44.65
1914-15.....	26, 27, 28, 31, 32	I-69-UNB6	77.70	1917.....	MB, MW	R-311-AZ	44.65
1915.....	30, 33	H-315-AZ	53.05	LOCOMOBILE			
1916.....	34, 35	H-315-AZ	53.05	1912-13-14.....	{ R-2, R-3, M-3, }	H-319-AB6	64.60
1916-17-18-19.....	{ 36, 37, 38, 39, 40, }	D-315-AZ	57.25	1915.....	{ R-4, M-4 }		
1916-17.....	{ 41, 44, 45, 46... }			1915.....	R-3, M-5	H-319-AZ	64.60
HOLLIER				1915-16.....	R-5, M-5, R-6, M-6	H-319-AZ	64.60
1916-17.....	168	D-67-LHV	59.35	1917.....	R-238, M-248	H-319-AZ	64.60
1916-17.....	166	R-311-AZ	44.65	1918-19.....	2-38, 2-48	H-319-AZ	64.60
1918.....	188-209	D-67-LV	59.35	LOZIER			
HOLMES				1913.....	27	H-319-AB6	64.60
1919.....		D-611-KS	81.40	1913-14.....	22, 22-A, 27	I-311-AB3	47.25
HUDSON				1914-15-16-17.....	30, 32, 34, 77, 82, 84	D-313-AZ	47.25
1914-15.....	6-54	C-313-DF	64.60	McFARLAN			
1914-15.....	6-40	R-313-AF	50.95	1915-16-17.....	All	D-319-AZ	64.60
1916.....	6-40	R-313-AZ	50.95	1918.....	6	R-315-AW	57.25
1916-17-18-19.....	Super Six	R-313-AE	50.95	MADISON			
HUPMOBILE				1915 to 19.....		R-313-DZ	50.95
1914.....	H A	D-315-AZ	53.05	MAIBOHN			
1915.....	K	D-69-KSZ	70.90	1917.....		R-67-KSA6	59.35
1916-17.....	{ N, N-L, N-O, }			MARION			
1916-17.....	{ N-B, N-U, Series }	R-313-AZ	50.95	1913-14-15.....		D-319-AB6	64.60
1918-19.....	{ N-1, 2, 3, 4... }						
1918-19.....	R All	R-311-AW	44.65				

* Battery thus indicated can only be supplied on thirty-day delivery.

COLUMBIA STORAGE BATTERIES—Continued

Year	Model	Type Bat.	List Price	OAKLAND	Year	Model	Type Bat.	List Price
1916		D-313-AZ	47.25	1913	35	R-313-AF	50.95	
1917	6-40-A, 6-60-B	D-313-AZ	47.25	1913	42, 6-60	G-123-H	87.15	
MARION HANDLEY				1914	36-43	R-313-AF	50.95	
1917		D-313-AZ	47.25	1914	48, 62	I-315-AZF	60.90	
MARMON				1913-14	35	H-319-AB6	64.60	
1912	32	R-311-AB6	44.65	1915	37, 49	R-313-AF	50.95	
1913-14	32, 48, 41, 48	D-59-RSB*	94.50	1916	32	R-311-AX	44.65	
1915	48	D-69-KSZ	70.90	1916	38	R-311-AZ	44.65	
1915-16-17	41, 34	D-69-KSZ	70.90	1916-17	50	R-313-AZ	50.95	
1918-19	34	R-315-AZ	57.25	1917	32	R-311-AE	44.65	
MAXWELL				1918-19	34, 34B	R-311-AO	44.65	
1913-14	50-6	I-311-AB3	47.25	OLDSMOBILE				
1914	35	D-315-AZ	53.05	1913	53	G-123-H	87.15	
1914-15	{ 25, Series Nos. 1, } { 2, 22000 }	D-313-AB4	47.25	1914	54	I-315-AZF	60.90	
1915-16-17	25	D-67-MA3	59.35	1915	42	R-313-AF	50.95	
1918	25	D-67-KSA6	59.35	1915	55	I-315-AZF	60.90	
1918-19	25	D-67-KSA3C	59.35	1916	43, 44	R-311-AZ	44.65	
MERCER				1917-18	45, 45-A	R-311-AE	44.65	
1913-14	35-G, H, M	D-319-AB6	64.60	1918	37	R-311-AO	44.65	
1913-14	35-K, 35-O	H-319-AB6	64.60	1919	45, 37	R-311-AW	44.65	
1915	22-70	H-611-KSZ	81.40	OVERLAND				
1916	22-72	I-69-FNZ	77.70	1913	69, 71	E-127-TA3*	110.25	
1917	22-73	R-611-LNB6	87.15	1913	69, 71	D-313-AZ	47.25	
1918	Series 4	R-315-AW	57.25	1914	65, 79	D-313-AZ	47.25	
METZ				1915	80, 81, 82	D-313-DO	47.25	
1913-14	Series 1913	D-125-TSA6*	88.20	1916	75	R-311-AO	44.65	
1914	22 Series 1914	D-67-KSA6	59.35	1916	{ 85, 85-6, 86, 83, } { 88-B, O, E, } { 89-B, O, E, }	D-313-DO	47.25	
1914	22 Series 1914	D-69-KSB6	70.90	1917	85-4, 85-6, 86-B, 88-6	D-313-DO	47.25	
1915-16	22 Series 1915-16	H-311-JSZ	41.50	1917-18	90, 90-B	R-311-AO	44.65	
1917	25 Series 1917	H-311-JSZ	41.50	1917-18-19	{ 90-T, 90-R, 90-CC } { and delivery }	R-311-AO	44.65	
MITCHELL				1918	{ 90, 85, 85-B-4, } { 90-B-T }	R-311-AO	44.65	
1913	{ 2-4, 5-4, 7-4 2-6, } { 5-6, 7-6 }	H-319-AB6	64.60	OWEN-MAGNETIC				
1914	{ A-5-40, A-5-50, } { SP DeLuxe, } { Light Four and } { Light Six, 6 of 16 }	D-319-AB6	64.60	1916-17	GA, CB	E-127-QV*	127.05	
1915-16		I-69-UX	77.70	1916-17	GB	E-127-TUV*	110.25	
1916	8	D-319-AZ	64.60	1918	W-42, M-25, O-36	E-127-TUV*	110.25	
1917	D-40 2d Series 1916	R-311-AZ	44.65	PACKARD				
1917	C-42 2d Series 1916	R-313-AZ	50.95	1913	138, 348	I-315-AB3C	60.90	
1918	D-40	R-311-AX	44.65	1913	138, 348	H-415-CR*	80.35	
1918	C-42	R-313-AZ	50.95	1914-15-16	{ 238, 338, 448, 548, } { 125, 135 }	D-319-X	64.60	
1919	E-40, E-42	R-313-AZ	50.95	1917-18-19	3-25, 3-35	D-319-X	64.60	
1919	E-40	R-311-AO	44.65	PAIGE-DETROIT				
MOLINE				1913-14	25	H-67-KSA6	50.95	
1913-14	M-40	D-315-AB4	53.05	1913-14-15	36, 25	I-311-AB3	47.25	
1913-14-15	MK-50	I-69-UNB6	77.70	1914	36	D-313-AZ	47.25	
1915-16	MK-40	D-315-AZ	53.05	1916	6-38, 6-40	D-313-AZ	47.25	
1917	MV-50G	R-313-AW	50.95	1917	K-6-17, J-6-17	R-313-AZ	50.95	
1918-19	All	R-313-AW	50.95	1917-18-19	6-51, 6-46	R-313-AZ	50.95	
MONITOR				PATERSON				
1915	C	R-67-KSV	63.00	1915	4-32, 6-48	R-313-AF	50.95	
1916	CM	R-311-AO	44.65	1916	6-42	R-311-AX	44.65	
1917-18	C, M, O, R	R-311-AW	44.65	1917	6-45	R-311-AZ	44.65	
MONROE				1918	6-45	R-311-AW	44.65	
1914	M2, M2-1/2	H-319-AB6	64.60	PATHFINDER				
1914-15	M2, M2-1/2	D-315-AZ	53.05	1914	4-A, C, D, E	I-311-AB3	47.25	
1915	M2, M2-1/2	D-313-AZ	47.25	1914	6-A, B, C, L	D-313-AZ	47.25	
1916-17	M-2, M3	R-311-AZ	44.65	1915	7-A, 1-B, 1-C, B, C	D-319-AZ	64.60	
1918	M3, M6	R-311-AO	44.65	1916	2-B, 2-C	D-319-AZ	64.60	
MOON				1916	8-A, 8-B, 8-C	R-313-DZ	50.95	
1913	39 and 48	D-69-KSB6	70.90	1917	2-B, C, D	D-319-AZ	64.60	
1914-15	4-42, 6-50	C-313-DF	64.60	PERLESS				
1915	4-38, 6-40	R-313-AF	50.95	1913	38-6, 48-6, 60-6	I-311-AB3	47.25	
1916	6-30, 6-44	R-313-AX	50.95	1914-15	38-6, 48-6, 60-6	I-315-AB7	60.90	
1917	6-66, 6-43	R-313-AZ	50.95	1915	DD, EE, 54, 55	D-313-AZ	47.25	
1918	6-36	R-311-AE	44.65	1916	57	R-315-AZ	57.25	
1918	6-66	R-313-AE	50.95	1917	56 2nd Series	R-315-AZ	57.25	
MURRAY				1916	FF	R-313-AZ	50.95	
1916-17	8	H-315-AZ	53.05	1918	56	R-315-AE	57.25	
1918	70-T	R-315-AZ	57.25	1919	All	R-315-AW	57.25	
NASH				PEERLESS TRUCK				
1918	671	R-311-AX	44.65	1919		LD-311-A	37.25	
1917-18	681, 682, 683	R-311-AW	44.65	PIERCE-ARROW				
1919		R-311-AW	44.65	1914	38-C-2, 48-B-2	H-313-AB6	47.25	
NATIONAL				1914	66-A-2	R-313-AF	50.95	
1913-14	Series V1, V3	I-311-AB3	47.25	1915-16	All	R-313-AF	50.95	
1914	Series 6-W	D-313-AZ	47.25	1917-18	All A-4, B-4, C-4	E-319-JSZ	59.85	
1915	AA and A-B	R-315-DZ	57.25	PILOT				
1916-17	{ Highway 6 AC, } { 6-AE, AF }	R-313-DZ	50.95	1913-14	40	I-311-AB3	47.25	
1918	AF-2 Series	R-313-DZ	50.95	1913-14	60	D-313-AB6	47.25	
1916-17-18	{ Highway 12, } { ADAH, AK and } { AK2 }	R-315-DZ	57.25	1914-15	75	D-313-AZ	47.25	
1919		R-315-DZ	57.25	1915	55	D-315-AB6	53.05	
				1916-17-18-19	6-45, 6-55, 8-55	R-311-AZ	44.65	

* Battery thus indicated can only be supplied on thirty-day delivery.

COLUMBIA STORAGE BATTERIES—Continued

PREMIER				STANLEY STEAMER			
Year	Model	Type Bat.	List Price	Year	Model	Type Bat.	List Price
1913-14-15	{ 6-40, 6-49A, Weidley, 6-50, 51 }	H-319-AZ	61.60	STEARNS			
1917	6-B	R-313-DZ	50.95	1912-13	SK-4	R-311-AB6	44.65
1918	6-C	R-313-DE	50.95	1913	SK-6	I-315-AB7	60.90
1919	6-C Rt. Hd. Drive	R-313-AW	50.95	1913-14-15	SK-4	I-311-AZ	47.25
PULLMAN				1913-14-15	SK-6	I-315-AZ	60.90
1915-16	Jr.	H-69-LA5*	70.90	1916-17	SK-8	I-69-FMZ	77.70
1917	4-24	R-311-AO	44.65	1915	SK-L-4	D-313-DZ	47.25
REGAL				1915	SK-L-4	I-69-FX	77.70
1914	LN, LT, LC	D-315-AZ	53.05	1916-17-18-19	SK-L-4	I-69-FNZ	77.70
1915	R and D	D-313-AZ	50.95	STEVENS			
1916	LT. 4, Std. 4, 18	D-67-K8V	59.35	1916-17	60-65	R-311-AW	44.65
1917	J, 4-32	R-311-AZ	44.65	1916-17	60-65	R-311-AO	44.65
REO				1918	70, 74, 75, 78	R-311-AW	44.65
1913-14	R, S	I-311-AB3	47.25	STUDEBAKER			
1915	R, S, M, F	I-311-AB3	47.25	1913	E-AA	D-69-KSV3C	70.90
1916-17	R, S, M, F, N	R-313-AZ	50.95	1914	EB, SC	D-315-AZ	53.05
1918-19	AH	R-313-AZ	50.95	1915	EC, SD	D-315-AZ	53.05
REO TRUCK				1916-17	ED, SF, 7	R-313-AZ	50.95
1919		R-313-AZ	50.95	1918	EH, SH, EG	R-313-AW	50.95
REPUBLIC TRUCK				1919		R-313-AO	50.95
1916-17		D-313-AB6	47.25	1919		R-313-AW	50.95
1917	9	D-69-K8V	70.90	STUTZ			
ROAMER				1914-15		H-319-AZ	64.60
1916-17		D-313-AZ	47.25	1914-15-16	E, F and C	D-319-AB6	64.60
1918	D-4, 75, C-6-54	D-313-AZ	47.25	1917	R-4	D-319-AB6	64.60
1918	R, AH, D, 6-80	D-319-AZ	64.60	1918-19		R-315-AZ	57.25
1919		I-313-AZ	54.10	TEMPLAR			
ROSS				1918	A-4-45	R-313-AE	50.95
1915	A	R-313-AZ	50.95	1919		R-313-A	50.95
1916-17	C	D-313-DZ	47.25	VELIE			
1918	C	R-313-AZ	57.25	1913-14-15	9, 10, 11, 12, 14, 15	D-313-AZ	47.25
SANDOW TRUCK				1914	R and 6	I-311-AB3	47.25
1916-17	1½ Ton	D-313-AZ	47.25	1914	R and 6	I-311-AZ	47.25
1916-17	2 Ton	D-315-AZ	53.05	1915-16	15 Series 15	D-313-AZ	47.25
1916-17	3 Ton	D-319-AZ	64.60	1915-16	22 Series 22	R-311-AX	44.65
SAXON				1916-17	Built Well 27 Ser.	D-313-AZ	47.25
1915	A	R-311-AB6	44.65	1916-17	Built Well 28 Ser.	R-311-AZ	44.65
1915	6	D-313-AZ	47.25	1918	38	R-311-AX	44.65
1915	8	R-311-AZ	44.65	1918	39	R-313-AW	50.95
1916	S-2	R-311-AZ	44.65	1919		R-313-AO	50.95
1917	S-4, B-5, B-14	R-311-AE	44.65	WESTCOTT			
1918-19	S-4, B-5	R-311-AE	44.65	1913-14	6-60	D-319-AB6	64.60
SCRIPPS BOOTH				1913-14	4-40	D-87-PA6*	77.70
1915	C	D-67-KSA6	59.35	1914	O-30	D-313-AB6	47.25
1916	C-4, D-6	R-311-AZ	44.65	1915	O-35, U-50	R-313-AF	50.95
1917	C-4	R-311-AO	44.65	1916	41, 42, 51	R-313-AZ	50.95
1917	D-8	R-311-AZ	44.65	1917	S-17	R-313-AZ	50.95
1918-19	6-39, 6-40	R-311-AO	44.65	1918-19	S-18-A	R-313-AW	50.95
SIMPLEX				WHITE			
1913-14	A-2, B-2, D	D-319-AB6	64.60	1913-14-15-16-40 and 60 H. P.	H-99-GA8	105.00	
1915	E	H-219-AB6	64.60	1913-14-15-16-38 H. P.	H-97-GA12	85.05	
1915-16-17	Crane Simplex	D-319-AB6	64.60	1917	GM Series 1917	I-69-FNZ	77.70
1918	V	D-319-AB6	64.60	1918	GM	I-69-FNZ	77.70
STANDARD				1918	TDC	D-69-KSW	70.90
1913	6	D-319-AB6	64.60	WILLYS-KNIGHT			
1914	6	D-315-AB6	53.05	1914-15	K-17, K-19	E-127-TA3*	110.25
1915	6	D-313-AZ	47.25	1916-17-18-19-84, 88-4, 88-8		R-315-DO	57.25
1916	6	D-313-DZ	47.25	WINTON			
1917	E	D-313-DZ	47.25	1915	21	H-319-AZ	64.60
1917	F	R-315-DZ	57.25	1915	21-A	H-315-DZ	53.05
1918	G	R-315-AW	57.25	1916-17	22	H-319-AZ	64.60

* Battery thus indicated can only be supplied on thirty-day delivery.

WE CARRY THE LARGEST STOCK OF STORAGE BATTERY SERVICE STATION
EQUIPMENT BETWEEN NEW YORK AND CHICAGO—AND
OUR PRICES ARE INTERESTING

HOOVEN RADIATORS

All Brass Core

The unique construction of Hooven Radiators which combine the well-known honeycomb and tubular design insures a maximum radiation surface under all conditions. The core construction is all Brass, eliminating leakage and clogging, increasing cooling efficiency 33 1/3% and giving extreme lightness without loss of strength. The all-brass construction renders repairing easy in case of freezing. These Radiators are made to manufacturer's specifications and are guaranteed to fit original shells.

HOOVEN RADIATORS

For Chevrolet Model 4-90



Made in two styles for use with pumping system and for use with thermo-siphon system. These Radiators are sold without shells.

Hooven Radiator for Chevrolet 4-90 Pump System without shell.

List Price.....\$41.00

Hooven Radiator for Chevrolet 4-90 Thermo-Siphon System, without Shell.

List Price.....\$43.00

HOOVEN RADIATORS

For 1916-17-18-19 Maxwell



Of the same type construction as other Hooven Radiators. Sold without shell.

Hooven Radiator for Maxwell Models 1916 to 1919 inclusive, without Shell. List Price.....\$41.00

HOOVEN RADIATORS

For Dodge Cars



Made in two models fitting all Dodge cars.

In ordering be sure to specify year of car.

Furnished without shell.

Hooven Radiator for Dodge Cars. List Price.....\$45.00

RADIATOR CAPS



Moulded from special materials, which, when burnished, take on a high attractive polish. They will withstand heat or cold, rain or sunshine. Each cap is carefully inspected and neatly packed in a separate box.

List Price, Each, Nos. 1, 2 (closed top), 3, 4, 5, 8, 12, 17, 20, 21, 24, 27, 28, 29.....\$1.00

List Price, Each, Nos. 2 (open top), 9, 13, 16, 23......75

List Price, Each Nos. 7, 26......125

List Price, Each, No. 18......150

List Price, Each, No. 22......110

List Price, Each, No. 25H......175

List Price, Each, No. 11 Ford—Brass......60

Cap. No.	Cap. No.
Abbott-Detroit, 1917-18	Madison.....12
Model 6-60.....1	Marmon (all model 34s) 25
Allen.....2, 2 O. T. and 8	Marmon (all model 34s hole for motometer) 25H
Apperson.....3	Marmon Gasoline Tank 13
Auburn, 1918.....7	Maxwell, 1915-16-17.....16
Buick.....9	Maxwell, 1918.....23 O. T.
Cadillac, 1914-15-16.....4	Maxwell Gasoline Tank.....23 O. T.
Cadillac, 1917-18.....21	Mercer (Drilled for Motometer).....18
Chalmers, 1914 or earlier 3	Mitchel.....8
Chalmers, 1915-16-17-18.....20	Moline.....8
Chandler.....17, 5	Moline Plow Tractor.....1
Chevrolet Little Six.....1	Moon.....8
Chevrolet Baby Grand 8.....12	Nash.....20
Chevrolet Royal Mail 8.....12	National, 1915 and older 3
Chevrolet, 490 (all mdls).....16	Oakland 1916, Little Six 1
Cleveland.....28	Oakland, 1917-18.....29
Cole.....17, 5	Oldsmobile (1914 and earlier).....1
Columbia.....4	Oldsmobile, 42-43.....5
Crow Elkhart.....8	Oldsmobile, 37-45.....3
Crawford.....3	Paige, 1914 or earlier.....1
Cunningham.....3	Paige, 1915-16-17-18.....5
Daniels.....3	Paige Gasoline Tank.....5
Davis.....3	Paige.....17
Denby.....1	Patterson.....8
Diamond T Truck.....8	Peerless (all 56 models with hole for motometer).....20
Dodge.....2, 2 O. T.	Pierce-Arrow.....3, 5
Elgin, 1918-1919.....5	Princess.....13
Empire.....1, 3	Republic Truck.....8
Essex.....4	Regal.....2, 3
Ford.....11, 11-B	Reo.....19
Grant.....8	Ross 8 (all models).....5
Haynes.....3	Saxon, 6 cylinder.....3
Hudson 6-40.....4, 8	Scripps Booth.....1, 24
Hudson Super Six.....4, 8	Standard Car, 8.....3
Hollier.....8	Stearns Knight, 4 cyl.....5
Hupp 1915-16-17.....7	Stearns Knight, 8 cyl.....5
Hupp 1918.....22	Stevens Duryea.....5
Interstate.....3	Studebaker.....2, 2 O. T.
Jackson.....8	Stutz.....2
Jeffery.....5	Vellie, 1914-15.....2, 2 O. T.
Jeffery Truck.....5	Vellie, 1916.....8
Jeffery, 1916-17.....5	Vim Commercial.....2
King.....1, 5, 12	Westcott.....3
Jordan.....3	White.....3
King 1918-1919.....3	Winton, 1916 and earlier 3
Kissel Kar.....11, 11-B	Winton, 1918-1919.....20
Kissel Truck.....5	
Lexington.....3	
Liberty.....3	
Locomobile, 1915 or earlier.....5	
McFarlan.....5	

KINGSTON CARBURETORS

For Chevrolet

Kingston Carburetors are built for one specific model car and these two models for Chevrolets have passed every kind of economy tests before being put on the market. No adjustments for weather or temperature changes. Simple, efficient, and economical. Give largely increased power and quick pickup to Chevrolet motor.

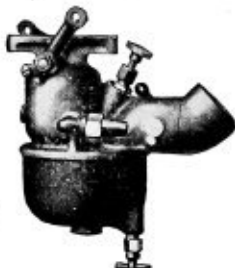


Kingston Carburetor for Baby Grand Chevrolet.

List Price\$11.00

Kingston Carburetor for Baby Grand Chevrolet, complete with new Fuel Strainer and Separator.

List Price\$12.50



KINGSTON CARBURETORS

For Ford Cars

This Carburetor was furnished as standard equipment on Ford cars for several years. Type L1 is for 1915-16 Fords. Type L2 for Fords built after July, 1916; also for 1917 models.



Model L1 Kingston Carburetor for 1915-16 Fords.

List Price\$6.30

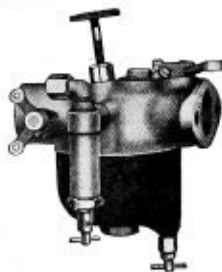
Model L2 Kingston Carburetor for 1916-17 Fords.

List Price 6.30

KINGSTON MODEL L2S CARBURETORS

For Ford Cars

This is a great improvement over the Model L2 and L1 Kingston Carburetors. Equipped with gasoline Strainer and many other economy increasing devices too numerous to mention. Guaranteed right.



Kingston Model L2S Carburetor for Ford Cars.

List Price\$7.50

KINGSTON CARBURETORS

For Dodge Cars

Its scientific construction makes this Carburetor thoroughly vaporize the lowest grade gasoline and completely mix it with air in exactly the right proportions. Easy starting, no adjustments being necessary, regardless of climatic conditions. Liven up a sluggish motor instantly. Guaranteed low fuel consumption. Equipped with guaranteed new designed Fuel Strainer and Separator.



Kingston Carburetor for Dodge Cars.

List Price\$15.00

KINGSTON CARBURETORS

For Maxwell Cars



Increased power and lower fuel consumption with any kind of gasoline. Cannot choke and greatly increases ease of starting use, flexibility and smooth running of motor. Absolutely economical under all conditions. Designed especially for Maxwell cars and guaranteed to meet every requirement. Equipped with new type fuel strainer and many other special features.

Kingston Carburetors for Maxwell Cars.

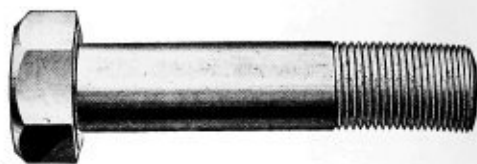
List Price\$12.50

PITTSBURGH AUTO EQUIPMENT CO.

HEXAGON HEAD CAP SCREWS

U. S. Standard Thread

Packed 100 of One Size in Box.



LIST PRICE PER 100

Diam. Screw	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	$1\frac{3}{4}$
Threads to Inch	20	18	16	14	12 or 13	12	11	10	9	8	7	7
Length under Head to Extreme Point												
$\frac{3}{4}$	\$ 3.00	\$ 3.25	\$ 3.75	\$ 4.50	\$ 5.70							
$\frac{7}{8}$	3.15	3.40	3.90	4.70	5.80							
1	3.25	3.50	4.00	4.90	5.90	\$ 9.25	\$ 9.25					
$1\frac{1}{4}$	3.50	3.75	4.25	5.30	6.50	9.50	9.50	\$12.50				
$1\frac{1}{2}$	3.75	4.00	4.50	5.70	7.10	10.00	10.00	13.50	\$18.40			
$1\frac{3}{4}$	4.00	4.25	4.85	6.10	7.70	10.75	10.75	14.50	19.70	\$22.75		
2	4.25	4.85	5.20	6.50	8.30	11.50	11.50	15.50	21.00	25.00	\$34.00	\$38.50
$2\frac{1}{4}$	4.70	5.35	5.55	7.15	8.90	12.60	12.60	16.50	22.40	27.25	36.75	42.00
$2\frac{1}{2}$	5.25	5.80	6.00	7.50	9.50	13.60	13.60	17.50	23.70	29.50	39.50	45.50
$2\frac{3}{4}$	5.75	6.30	6.65	7.90	10.10	14.40	14.40	19.00	25.00	31.75	42.25	49.00
3	6.25	6.80	7.20	8.40	10.70	15.20	15.20	20.60	26.40	34.00	45.00	52.50
$3\frac{1}{4}$	6.65	7.30	7.80	9.15	11.50	16.00	16.00	22.10	28.20	36.25	47.75	56.00
$3\frac{1}{2}$	7.05	7.80	8.40	9.75	12.30	17.30	17.30	23.70	30.00	38.50	50.50	59.50
$3\frac{3}{4}$	7.45	8.30	9.00	10.50	13.10	18.60	18.60	25.30	31.80	40.75	53.25	63.00
4	7.85	8.80	9.60	11.10	13.90	19.90	19.90	26.90	33.60	43.00	56.00	66.50
$4\frac{1}{4}$	8.25	9.30	10.20	11.80	14.70	21.20	21.20	28.50	35.40	45.25	58.75	70.00
$4\frac{1}{2}$	8.65	9.80	10.80	12.50	15.50	22.50	22.50	30.10	37.20	47.50	61.50	73.50
$4\frac{3}{4}$	9.05	10.30	11.40	13.20	16.30	23.80	23.80	31.70	39.00	49.75	64.25	77.00
5	9.45	10.80	12.00	13.70	17.10	25.10	25.10	33.30	40.80	52.00	67.00	80.50
Add for each $\frac{1}{4}$ in.	\$.40	\$.50	\$.60	\$.70	\$.80	\$1.30	\$1.30	\$1.60	\$1.80	\$2.25	\$2.75	\$3.50

HEXAGON HEAD CAP SCREWS

S. A. E. (A. L. A. M.) Standard Thread

Packed 100 of One Size in Box.

LIST PRICE PER 100

Diameter Screw	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$\frac{1}{2}$	$\frac{3}{4}$
Threads to Inch	28	24	24	20	20	18	18	16	16	14	
Length under Head to Extreme Point											
$\frac{3}{4}$	\$ 3.45	\$ 4.10	\$ 4.70								
$\frac{7}{8}$	3.65	4.30	4.90	\$ 6.60							
1	3.85	4.50	5.10	6.80	\$ 7.40						
$1\frac{1}{4}$	4.10	4.80	5.35	7.35	8.15	\$11.90					
$1\frac{1}{2}$	4.40	5.10	5.65	8.00	8.90	12.50	\$14.70	\$16.90			
$1\frac{3}{4}$	4.70	5.45	6.05	8.65	9.65	13.45	15.80	18.15	\$24.65	\$28.45	
2	5.00	6.05	6.50	9.25	10.40	14.40	16.90	19.40	26.25	31.25	
$2\frac{1}{4}$	5.90	6.70	6.95	10.05	11.15	15.75	18.20	20.65	28.00	34.10	
$2\frac{1}{2}$	6.55	7.25	7.50	10.65	11.90	17.00	19.45	21.90	29.65	36.90	
$2\frac{3}{4}$	7.20	7.90	8.30	11.25	12.60	18.00	20.90	23.80	31.25	39.70	
3	7.80	8.50	9.00	11.95	13.40	19.00	22.40	25.75	33.00	42.50	
$3\frac{1}{4}$	8.20	9.00	9.60	12.90	14.40	20.00	23.90	27.65	35.25	45.35	
$3\frac{1}{2}$	8.60	9.50	10.20	13.80	15.40	21.65	25.65	29.65	37.50	48.15	
$3\frac{3}{4}$	9.00	10.00	10.80	14.75	16.40	23.25	27.45	31.65	39.75	50.95	
4	9.40	10.50	11.40	15.65	17.40	24.90	29.25	33.65	42.00	53.75	
$4\frac{1}{4}$	9.80	11.00	12.00	16.35	18.40	26.50	31.10	35.65	44.25	56.55	
$4\frac{1}{2}$	10.20	11.50	12.60	17.05	19.40	28.15	33.90	37.65	46.50	59.40	
$4\frac{3}{4}$	10.60	12.00	13.20	17.75	20.20	29.45	36.70	39.65	48.75	62.20	
5	11.00	12.50	13.80	18.45	21.00	30.75	39.50	41.65	51.00	65.00	

Sizes shown in heavy type carried in stock; sizes shown in light type on special order only.

CARRIAGE BOLTS



MANUFACTURERS' STANDARD LIST

— List Price per 100 —

Length Inches	Diameter, Inches						
	$\frac{1}{8}$ & $\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	
1 to 1½	\$1.00	\$1.40	\$1.90	\$2.20	.....	.....	.....
2	1.10	1.52	2.06	2.40	.....	.....	.....
2½	1.20	1.64	2.22	2.60	\$3.25	\$5.75	\$8.50
3	1.30	1.76	2.38	2.80	3.53	6.13	9.00
3½	1.40	1.88	2.54	3.00	3.81	6.51	9.50
4	1.50	2.00	2.70	3.20	4.09	6.89	10.00
4½	1.60	2.12	2.86	3.40	4.37	7.27	10.50
5	1.70	2.24	3.02	3.60	4.65	7.65	11.00
5½	1.80	2.36	3.18	3.80	4.93	8.03	11.50
6	1.90	2.48	3.34	4.00	5.21	8.41	12.00
6½	2.00	2.60	3.50	4.20	5.49	8.79	12.50
7	2.10	2.72	3.66	4.40	5.77	9.17	13.00
7½	2.20	2.84	3.82	4.60	6.05	9.55	13.50
8	2.30	2.96	3.98	4.80	6.33	9.93	14.00
8½	2.40	3.08	4.14	5.00	6.61	10.31	14.50
9	2.50	3.20	4.30	5.20	6.89	10.69	15.00
9½	2.60	3.32	4.46	5.40	7.17	11.07	15.50
10	2.70	3.44	4.62	5.60	7.45	11.45	16.00
11	2.90	3.68	4.94	6.00	8.01	12.21	17.00
12	3.10	3.92	5.26	6.40	8.57	12.97	18.00
13	3.30	4.16	5.58	6.80	9.13	13.73	19.00
14	3.50	4.40	5.90	7.20	9.69	14.49	20.00
15	3.70	4.64	6.22	7.60	10.25	15.25	21.00
16	3.90	4.88	6.54	8.00	10.81	16.01	22.00
17	4.10	5.12	6.86	8.40	11.37	16.77	23.00
18	4.30	5.36	7.18	8.80	11.93	17.53	24.00
19	4.50	5.60	7.50	9.20	12.49	18.29	25.00
20	4.70	5.84	7.82	9.60	13.05	19.05	26.00

Bolts with Hexagon Nuts, 15 per cent extra.
Intermediate lengths take next higher list.
Larger diameters take machine bolt list.

MACHINE BOLTS

With Square Heads and Square Nuts



LIST PRICE PER 100

Length in Inches	Diameter, Inches							
	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	1
$\frac{1}{2}$ to $1\frac{1}{2}$	\$1.70	\$2.00	\$2.40	\$2.80	\$3.60	\$ 5.20	\$ 7.70	\$10.50
2	1.78	2.12	2.56	3.00	3.86	5.58	8.25	11.20
$2\frac{1}{2}$	1.86	2.24	2.72	3.20	4.12	5.96	8.80	11.90
3	1.94	2.36	2.88	3.40	4.38	6.34	9.35	12.60
$3\frac{1}{2}$	2.02	2.48	3.04	3.60	4.64	6.72	9.90	13.30
4	2.10	2.60	3.20	3.80	4.90	7.10	10.45	14.00
$4\frac{1}{2}$	2.18	2.72	3.36	4.00	5.16	7.48	11.00	14.70
$5\frac{1}{2}$	2.26	2.84	3.52	4.20	5.42	7.86	11.55	15.40
6	2.34	2.96	3.68	4.40	5.68	8.24	12.10	16.10
$6\frac{1}{2}$	2.42	3.08	3.84	4.60	5.94	8.62	12.65	16.80
7	2.50	3.20	4.00	4.80	6.20	9.00	13.20	17.50
$7\frac{1}{2}$	2.58	3.32	4.16	5.00	6.46	9.38	13.75	18.20
8	2.66	3.44	4.32	5.20	6.72	9.76	14.30	18.90
$8\frac{1}{2}$	2.74	3.56	4.48	5.40	6.98	10.14	14.85	19.60
9	2.80	3.68	4.68	5.60	7.24	10.52	15.40	20.30
10	2.86	4.04	5.12	6.20	8.02	11.66	17.03	22.40
11	3.22	4.28	5.44	6.60	8.54	12.42	18.15	23.80
12	3.38	4.52	5.76	7.00	9.06	13.18	19.25	25.20

STOVE BOLTS



Flat and Round Heads

LIST PRICE PER 100

Length	Diameter, Inches			
	$\frac{1}{8}$ & $\frac{5}{32}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$
$\frac{3}{8}$ "	\$.85	\$.85	\$	\$
$\frac{1}{2}$ "	.85	.85	1.20	.....
$\frac{5}{8}$ "	.85	.85	1.20	.....
$\frac{3}{4}$ "	.85	.85	1.20	1.75
$\frac{7}{8}$ "	.90	.90	1.25	1.80
1"	.90	.90	1.30	1.85
$1\frac{1}{8}$ "	.95	.95	1.35	1.90
$1\frac{1}{4}$ "	1.00	1.00	1.40	1.95
$1\frac{3}{8}$ "	1.05	1.05	1.45	2.00
$1\frac{1}{2}$ "	1.10	1.10	1.50	2.05
$1\frac{3}{4}$ "	1.15	1.15	1.55	2.15
2"	1.20	1.20	1.60	2.30
$2\frac{1}{4}$"	.....	1.25	1.70	2.40
$2\frac{1}{2}$"	.....	1.30	1.80	2.50
$2\frac{3}{4}$"	.....	1.40	1.90	2.60
3"	.....	1.50	2.00	2.70

SET SCREWS



Square Head

Case Hardened, U. S. Standard Thread

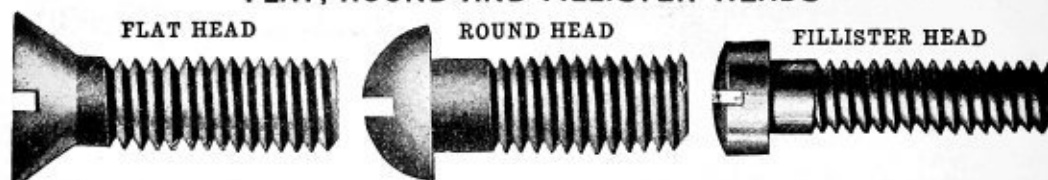
Packed 100 of One Size in Box.

— List Prices per 100 —

Threads to Inch	20	18	16	14	12 or 13
Diam. of Screw	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{8}$	$\frac{1}{2}$
Length					
$\frac{1}{2}$ "	\$1.80	\$2.00	\$2.35	.....	.....
$\frac{3}{8}$ "	1.90	2.10	2.45	\$2.80	\$3.30
$\frac{1}{4}$ "	2.00	2.20	2.50	2.90	3.40
$\frac{3}{16}$ "	2.10	2.30	2.60	3.00	3.60
1"	2.15	2.35	2.65	3.10	3.80
$1\frac{1}{8}$ "	2.20	2.50	2.85	3.50	4.30
$1\frac{1}{4}$ "	2.50	2.70	3.10	4.00	4.80
$1\frac{1}{2}$ "	2.75	3.00	3.50	4.50	5.40
2"	3.25	3.50	4.00	5.15	6.00
$2\frac{1}{4}$ "	3.75	4.00	4.50	5.75	6.75
$2\frac{1}{2}$ "	4.25	4.50	5.00	6.35	7.50
$2\frac{3}{4}$ "	4.75	5.00	5.50	6.75	8.25
3"	5.25	5.50	6.00	7.20	9.00
$3\frac{1}{4}$"	.....	.....	.....	7.60	9.75
$3\frac{1}{2}$"	.....	.....	.....	8.00	10.50
$3\frac{3}{4}$"	.....	.....	.....	8.50	11.25
4"	.....	.....	.....	9.00	12.00

IRON AND BRASS MACHINE SCREWS

FLAT, ROUND AND FILLISTER HEADS



IRON—PRICE, PER GROSS—Adopted November 18, 1912

No.	2 and 3	4	5	6	7 and 8	9 and 10	12	14	16	18	20	24	30	34
Length, Inches														
1/8	.30	.30	.35	.35	.40	.....	.....	.....	.....	.....	.....	.....	.....	.....
3/16	.30	.30	.35	.35	.40	.60	.....	.....	.....	.....	.....	.....	.....	.....
1/4	.30	.30	.35	.35	.40	.60	.70	.85	.....	.....	.....	.....	.....	.....
5/16	.32	.32	.37	.37	.44	.65	.75	.90	1.15	.....	.....	.....	.....	.....
3/8	.32	.32	.37	.37	.44	.65	.75	.90	1.15	1.50	1.90	2.30	.....	.....
7/16	.34	.34	.39	.39	.48	.70	.80	.95	1.20	1.60	2.00	2.40	.....	.....
1/2	.34	.34	.39	.39	.48	.70	.80	.95	1.20	1.60	2.00	2.40	.....	.....
9/16	.37	.37	.42	.42	.52	.75	.85	1.00	1.25	1.70	2.10	2.50	.....	.....
5/8	.37	.37	.42	.42	.52	.75	.85	1.00	1.25	1.70	2.10	2.50	.....	.....
3/4	.41	.41	.46	.46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7/8	.41	.41	.46	.46	.56	.80	.90	1.05	1.30	1.80	2.20	2.60	4.00	5.10
1	.45	.45	.50	.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1 1/8	.45	.45	.50	.50	.60	.85	.95	1.15	1.40	1.90	2.30	2.70	4.25	5.85
1 1/4	.....	.50	.55	.55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1 1/2	.....	.50	.55	.55	.65	.90	1.00	1.25	1.50	2.00	2.40	2.80	4.50	6.60
1 3/4	.....	.55	.60	.60	.70	1.00	1.10	1.35	1.60	2.20	2.60	3.00	5.00	7.00
2	.....	.60	.65	.65	.75	1.10	1.20	1.45	1.75	2.40	2.80	3.20	5.25	7.35
2 1/4	.....	.65	.70	.70	.80	1.20	1.30	1.55	1.90	2.60	3.00	3.40	5.75	8.00
2 1/2	.....	.70	.75	.75	.85	1.30	1.40	1.65	2.10	2.80	3.20	3.60	6.00	8.00
2 3/4	.....	.80	.85	.85	.95	1.40	1.50	1.75	2.30	3.00	3.40	3.80	6.35	.....
3	.....	.90	.95	.95	1.05	1.50	1.60	1.85	2.50	3.20	3.60	4.20	6.65	8.60
3 1/4	.....	1.00	1.05	1.05	1.15	1.60	1.70	2.00	2.70	3.40	3.80	4.40	7.00	.....

BRASS—PRICE, PER GROSS

No.	2 and 3	4	5	6	7 and 8	9 and 10	12	14	16	18	20	24	30	34
Length, Inches														
1/8	.32	.36	.46	.46	.70	.....	.....	.....	.....	.....	.....	.....	.....	.....
3/16	.32	.36	.46	.46	.70	1.00	.....	.....	.....	.....	.....	.....	.....	.....
1/4	.32	.36	.46	.46	.70	1.00	1.25	1.65	.....	.....	.....	.....	.....	.....
5/16	.34	.38	.49	.49	.75	1.05	1.35	1.75	.....	.....	.....	.....	.....	.....
3/8	.36	.40	.52	.52	.80	1.10	1.45	1.85	2.90	3.70	4.60	5.50	.....	.....
7/16	.38	.42	.55	.55	.85	1.15	1.55	2.00	3.05	3.90	4.80	5.60	.....	.....
1/2	.40	.44	.58	.58	.90	1.25	1.65	2.15	3.20	4.10	5.00	5.75	.....	.....
9/16	.43	.47	.62	.62	.95	1.35	1.75	2.30	3.35	4.30	5.25	6.30	.....	.....
5/8	.46	.50	.66	.66	1.00	1.45	1.85	2.45	3.50	4.50	5.50	6.50	.....	.....
3/4	.49	.53	.70	.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7/8	.52	.56	.74	.74	1.10	1.65	2.05	2.75	3.80	4.90	6.00	6.70	.....	15.75
1	.55	.59	.78	.78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1 1/8	.58	.62	.82	.82	1.20	1.85	2.25	3.05	4.10	5.30	6.50	7.40	.....	17.10
1 1/4	.....	.65	.86	.86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1 1/2	.....	.70	.90	.90	1.30	2.05	2.45	3.35	4.40	5.70	7.00	8.50	15.75	18.50
1 3/4	.....	.80	1.05	1.05	1.45	2.20	2.65	3.55	4.65	6.00	7.50	9.00	.....	.....
2	.....	.90	1.20	1.20	1.60	2.35	2.85	3.75	4.90	6.30	8.00	9.90	18.75	22.10
2 1/4	.....	1.00	1.35	1.35	1.75	2.50	3.05	3.95	5.20	6.60	8.50	11.50	.....	.....
2 1/2	.....	1.10	1.50	1.50	1.90	2.65	3.25	4.15	5.50	6.90	9.00	12.00	22.50	26.65
2 3/4	.....	1.25	1.70	1.70	2.10	2.85	3.50	4.40	5.85	7.30	9.50	.....	.....	.....
3	.....	1.40	1.90	1.90	2.30	3.05	3.75	4.65	6.20	7.70	10.00	12.70	24.25	28.10
3 1/4	.....	1.55	2.10	2.10	2.50	3.25	4.00	4.90	6.60	8.10	10.50	.....	.....	.....

HEXAGON HEAD NUTS

U. S. Standard or S. A. E. (A. L. A. M.)

Packed 100 in Box.



SEMI-FINISHED		
Diam. of Bolt		List Price Per 100
1/4"		\$ 2.00
5/16"		2.50
3/8"		3.25
7/16"		3.75
1/2"		4.50
5/8"		5.50
3/4"		6.50
7/8"	and 3/4"	8.50
1"		12.00
1 1/8"		17.50

CASTELLATED NUTS



U. S. or S. A. E. (A. L. A. M.) Standard

Packed 100 in Box.

Diam. of Bolt	Threads per Inch	List Price Per 100	Diam. of Bolt	Threads per Inch	List Price Per 100
1/4"	28	\$1.50	5/8"	18	\$5.50
5/16"	24	1.75	1 1/8"	16	6.25
3/8"	24	2.25	3/4"	16	8.50
7/16"	20	3.00	7/8"	14	10.00
1/2"	20	3.50	1"	14	15.50
5/8"	18	4.50			

MACHINE NUTS



Square Head U. S. Standard Thread.
Packed 100 in Box.

Bolt Size	List Price Per 100	Bolt Size	List Price Per 100
1/4"	\$.35	1/8"	\$1.32
5/16"	.47	5/8"	1.50
3/8"	.60	3/4"	2.52
7/16"	.75	7/8"	3.75
1/2"	.85	1"	5.53

WINGED THUMB NUTS



MALLEABLE IRON

Bolt Diam.	Threads	List Price Per 100	Bolt Diam.	Threads	List Price Per 100
1/8"	40	\$.80	3/8"	18	\$1.80
5/32"	32	.80	3/8"	16	2.50
3/16"	24	.90	1/2"	14	3.00
7/32"	24	1.10	1/2"	13	4.00
1/4"	20	1.30			

MACHINE SCREW NUTS

Iron



Hexagon or Square Head

Packed One Gross, One Size in Box.

Size No.	Threads	Square List Price Per Gross	Hexagon List Price Per Gross
4	32-36	\$.23	\$.36
6	30-32	.23	.36
8	30-32	.26	.40
10	24-30-32	.29	.43
12	20-24	.32	.48
14	20-24	.36	.55
16	16-18-20	.48	.72
18	16-18	.62	.94
20	16-18	.82	1.22
22	16-18	.93	1.44
24	14-16-18	1.06	1.58
26	14-16	1.20	1.80

MACHINE SCREW NUTS

Brass



Hexagon or Square Head

Packed One Gross, One Size in Box.

Size No.	Threads	Square List Price Per Gross	Hexagon List Price Per Gross
4	32-36	\$.72	\$1.08
6	30-32	.72	1.08
8	30-32	.80	1.22
10	24-30-32	.87	1.30
12	20-24	.94	1.44
14	18-20-24	1.08	1.66
16	16-18-20	1.44	2.16
18	16-18	1.88	2.81
20	16-18	2.45	3.67
22	16-18	2.70	4.32
24	14-16-18	3.17	4.75
26	14-16	3.60	5.40

STOVE BOLT NUTS



SQUARE

Packed 100 of One Size in Box.

Bolt Diam.	Threads	List Price Per 100	Bolt Diam.	Threads	List Price Per 100
1/4"	30	\$.28	1/4"	18	\$.28
5/32"	28	.18	1/8"	18	.42
3/16"	24	.20	3/8"	16	.58
7/32"	22	.22			

WOOD SCREWS



IRON

List of July 22, 1903

Price Per Gross

$L_2^{(2)}$	$U_2^{(2)}$	$L_2^{(2)}$	$U_2^{(2)}$	$L_2^{(2)}$	$U_2^{(2)}$	$L_2^{(2)}$	$U_2^{(2)}$
No.	No.	No.	No.	No.	No.	No.	No.
0 \$.72	0 \$.72	1 \$.72	1 \$.72	2 \$.72	2 \$.72	3 \$.72	3 \$.72
1 \$.72	1 \$.72	2 \$.72	2 \$.72	3 \$.72	3 \$.72	4 \$.72	4 \$.72
2 \$.72	2 \$.72	3 \$.72	3 \$.72	4 \$.72	4 \$.72	5 \$.72	5 \$.72
3 \$.72	3 \$.72	4 \$.72	4 \$.72	5 \$.72	5 \$.72	6 \$.72	6 \$.72
4 \$.72	4 \$.72	5 \$.72	5 \$.72	6 \$.72	6 \$.72	7 \$.72	7 \$.72
		5 \$.75	5 \$.75	6 \$.75	6 \$.75	7 \$.75	7 \$.75
		6 \$.78	6 \$.78	7 \$.78	7 \$.78	8 \$.78	8 \$.78
		7 \$.82	7 \$.82	8 \$.82	8 \$.82	9 \$.82	9 \$.82
		8 \$.88	8 \$.88	9 \$.88	9 \$.88	10 \$.88	10 \$.88
		9 \$.94	9 \$.94	10 \$.94	10 \$.94	11 \$.94	11 \$.94
		10 \$.100	10 \$.100	11 \$.100	11 \$.100	12 \$.100	12 \$.100
		11 \$.110	11 \$.110	12 \$.110	12 \$.110	13 \$.110	13 \$.110
		12 \$.120	12 \$.120	13 \$.120	13 \$.120	14 \$.120	14 \$.120
		13 \$.125	13 \$.125	14 \$.125	14 \$.125	15 \$.125	15 \$.125
		14 \$.130	14 \$.130	15 \$.130	15 \$.130	16 \$.130	16 \$.130
		15 \$.135	15 \$.135	16 \$.135	16 \$.135	17 \$.135	17 \$.135
		16 \$.140	16 \$.140	17 \$.140	17 \$.140	18 \$.140	18 \$.140
		17 \$.145	17 \$.145	18 \$.145	18 \$.145	19 \$.145	19 \$.145
		18 \$.150	18 \$.150	19 \$.150	19 \$.150	20 \$.150	20 \$.150
		19 \$.155	19 \$.155	20 \$.155	20 \$.155	21 \$.155	21 \$.155
		20 \$.160	20 \$.160	21 \$.160	21 \$.160	22 \$.160	22 \$.160
		21 \$.165	21 \$.165	22 \$.165	22 \$.165	23 \$.165	23 \$.165
		22 \$.170	22 \$.170	23 \$.170	23 \$.170	24 \$.170	24 \$.170
		23 \$.175	23 \$.175	24 \$.175	24 \$.175	25 \$.175	25 \$.175
		24 \$.180	24 \$.180	25 \$.180	25 \$.180	26 \$.180	26 \$.180
		25 \$.185	25 \$.185	26 \$.185	26 \$.185	27 \$.185	27 \$.185
		26 \$.190	26 \$.190	27 \$.190	27 \$.190	28 \$.190	28 \$.190
		27 \$.195	27 \$.195	28 \$.195	28 \$.195	29 \$.195	29 \$.195
		28 \$.200	28 \$.200	29 \$.200	29 \$.200	30 \$.200	30 \$.200
		29 \$.205	29 \$.205	30 \$.205	30 \$.205	31 \$.205	31 \$.205
		30 \$.210	30 \$.210	31 \$.210	31 \$.210	32 \$.210	32 \$.210
		31 \$.215	31 \$.215	32 \$.215	32 \$.215	33 \$.215	33 \$.215
		32 \$.220	32 \$.220	33 \$.220	33 \$.220	34 \$.220	34 \$.220
		33 \$.225	33 \$.225	34 \$.225	34 \$.225	35 \$.225	35 \$.225
		34 \$.230	34 \$.230	35 \$.230	35 \$.230	36 \$.230	36 \$.230
		35 \$.235	35 \$.235	36 \$.235	36 \$.235	37 \$.235	37 \$.235
		36 \$.240	36 \$.240	37 \$.240	37 \$.240	38 \$.240	38 \$.240
		37 \$.245	37 \$.245	38 \$.245	38 \$.245	39 \$.245	39 \$.245
		38 \$.250	38 \$.250	39 \$.250	39 \$.250	40 \$.250	40 \$.250
		39 \$.255	39 \$.255	40 \$.255	40 \$.255	41 \$.255	41 \$.255
		40 \$.260	40 \$.260	41 \$.260	41 \$.260	42 \$.260	42 \$.260
		41 \$.265	41 \$.265	42 \$.265	42 \$.265	43 \$.265	43 \$.265
		42 \$.270	42 \$.270	43 \$.270	43 \$.270	44 \$.270	44 \$.270
		43 \$.275	43 \$.275	44 \$.275	44 \$.275	45 \$.275	45 \$.275
		44 \$.280	44 \$.280	45 \$.280	45 \$.280	46 \$.280	46 \$.280
		45 \$.285	45 \$.285	46 \$.285	46 \$.285	47 \$.285	47 \$.285
		46 \$.290	46 \$.290	47 \$.290	47 \$.290	48 \$.290	48 \$.290
		47 \$.295	47 \$.295	48 \$.295	48 \$.295	49 \$.295	49 \$.295
		48 \$.300	48 \$.300	49 \$.300	49 \$.300	50 \$.300	50 \$.300
		49 \$.305	49 \$.305	50 \$.305	50 \$.305	51 \$.305	51 \$.305
		50 \$.310	50 \$.310	51 \$.310	51 \$.310	52 \$.310	52 \$.310
		51 \$.315	51 \$.315	52 \$.315	52 \$.315	53 \$.315	53 \$.315
		52 \$.320	52 \$.320	53 \$.320	53 \$.320	54 \$.320	54 \$.320
		53 \$.325	53 \$.325	54 \$.325	54 \$.325	55 \$.325	55 \$.325
		54 \$.330	54 \$.330	55 \$.330	55 \$.330	56 \$.330	56 \$.330
		55 \$.335	55 \$.335	56 \$.335	56 \$.335	57 \$.335	57 \$.335
		56 \$.340	56 \$.340	57 \$.340	57 \$.340	58 \$.340	58 \$.340
		57 \$.345	57 \$.345	58 \$.345	58 \$.345	59 \$.345	59 \$.345
		58 \$.350	58 \$.350	59 \$.350	59 \$.350	60 \$.350	60 \$.350
		59 \$.355	59 \$.355	60 \$.355	60 \$.355	61 \$.355	61 \$.355
		60 \$.360	60 \$.360	61 \$.360	61 \$.360	62 \$.360	62 \$.360
		61 \$.365	61 \$.365	62 \$.365	62 \$.365	63 \$.365	63 \$.365
		62 \$.370	62 \$.370	63 \$.370	63 \$.370	64 \$.370	64 \$.370
		63 \$.375	63 \$.375	64 \$.375	64 \$.375	65 \$.375	65 \$.375
		64 \$.380	64 \$.380	65 \$.380	65 \$.380	66 \$.380	66 \$.380
		65 \$.385	65 \$.385	66 \$.385	66 \$.385	67 \$.385	67 \$.385
		66 \$.390	66 \$.390	67 \$.390	67 \$.390	68 \$.390	68 \$.390
		67 \$.395	67 \$.395	68 \$.395	68 \$.395	69 \$.395	69 \$.395
		68 \$.400	68 \$.400	69 \$.400	69 \$.400	70 \$.400	70 \$.400
		69 \$.405	69 \$.405	70 \$.405	70 \$.405	71 \$.405	71 \$.405
		70 \$.410	70 \$.410	71 \$.410	71 \$.410	72 \$.410	72 \$.410
		71 \$.415	71 \$.415	72 \$.415	72 \$.415	73 \$.415	73 \$.415
		72 \$.420	72 \$.420	73 \$.420	73 \$.420	74 \$.420	74 \$.420
		73 \$.425	73 \$.425	74 \$.425	74 \$.425	75 \$.425	75 \$.425
		74 \$.430	74 \$.430	75 \$.430	75 \$.430	76 \$.430	76 \$.430
		75 \$.435	75 \$.435	76 \$.435	76 \$.435	77 \$.435	77 \$.435
		76 \$.440	76 \$.440	77 \$.440	77 \$.440	78 \$.440	78 \$.440
		77 \$.445	77 \$.445	78 \$.445	78 \$.445	79 \$.445	79 \$.445
		78 \$.450	78 \$.450	79 \$.450	79 \$.450	80 \$.450	80 \$.450
		79 \$.455	79 \$.455	80 \$.455	80 \$.455	81 \$.455	81 \$.455
		80 \$.460	80 \$.460	81 \$.460	81 \$.460	82 \$.460	82 \$.460
		81 \$.465	81 \$.465	82 \$.465	82 \$.465	83 \$.465	83 \$.465
		82 \$.470	82 \$.470	83 \$.470	83 \$.470	84 \$.470	84 \$.470
		83 \$.475	83 \$.475	84 \$.475	84 \$.475	85 \$.475	85 \$.475
		84 \$.480	84 \$.480	85 \$.480	85 \$.480	86 \$.480	86 \$.480
		85 \$.485	85 \$.485	86 \$.485	86 \$.485	87 \$.485	87 \$.485
		86 \$.490	86 \$.490	87 \$.490	87 \$.490	88 \$.490	88 \$.490
		87 \$.495	87 \$.495	88 \$.495	88 \$.495	89 \$.495	89 \$.495
		88 \$.500	88 \$.500	89 \$.500	89 \$.500	90 \$.500	90 \$.500
		89 \$.505	89 \$.505	90 \$.505	90 \$.505	91 \$.505	91 \$.505
		90 \$.510	90 \$.510	91 \$.510	91 \$.510	92 \$.510	92 \$.510
		91 \$.515	91 \$.515	92 \$.515	92 \$.515	93 \$.515	93 \$.515
		92 \$.520	92 \$.520	93 \$.520	93 \$.520	94 \$.520	94 \$.520
		93 \$.525	93 \$.525	94 \$.525	94 \$.525	95 \$.525	95 \$.525
		94 \$.530	94 \$.530	95 \$.530	95 \$.530	96 \$.530	96 \$.530
		95 \$.535	95 \$.535	96 \$.535	96 \$.535	97 \$.535	97 \$.535
		96 \$.540	96 \$.540	97 \$.540	97 \$.540	98 \$.540	98 \$.540
		97 \$.545	97 \$.545	98 \$.545	98 \$.545	99 \$.545	99 \$.545
		98 \$.550	98 \$.550	99 \$.550	99 \$.550	100 \$.550	100 \$.550
		99 \$.555	99 \$.555	100 \$.555	100 \$.555	101 \$.555	101 \$.555
		100 \$.560	100 \$.560	101 \$.560	101 \$.560	102 \$.560	102 \$.560
		101 \$.565	101 \$.565	102 \$.565	102 \$.565	103 \$.565	103 \$.565
		102 \$.570	102 \$.570	103 \$.570	103 \$.570	104 \$.570	104 \$.570
		103 \$.575	103 \$.575	104 \$.575	104 \$.575	105 \$.575	105 \$.575
		104 \$.580	104 \$.580	105 \$.580	105 \$.580	106 \$.580	106 \$.580
		105 \$.585	105 \$.585	106 \$.585	106 \$.585	107 \$.585	107 \$.585
		106 \$.590	106 \$.590	107 \$.590	107 \$.590	108 \$.590	108 \$.590
		107 \$.595	107 \$.595	108 \$.595	108 \$.595	109 \$.595	109 \$.595
		108 \$.600	108 \$.600	109 \$.600	109 \$.600	110 \$.600	110 \$.600
		109 \$.605	109 \$.605	110 \$.605	110 \$.605	111 \$.605	111 \$.605
		110 \$.610	110 \$.610	111 \$.610	111 \$.610	112 \$.610	112 \$.610
		111 \$.615	111 \$.615	112 \$.615	112 \$.615	113 \$.615	113 \$.615
		112 \$.620	112 \$.620	113 \$.620	113 \$.620	114 \$.620	114 \$.620
		113 \$.625	113 \$.625	114 \$.625	114 \$.625	115 \$.625	115 \$.625
		114 \$.630	114 \$.630	115 \$.630	115 \$.630	116 \$.630	116 \$.630
		115 \$.635	115 \$.635	116 \$.635	116 \$.635	117 \$.635	117 \$.635
		116 \$.640	116 \$.640	117 \$.640	117 \$.640	118 \$.640	118 \$.640
		117 \$.645	117 \$.645	118 \$.645	118 \$.645	119 \$.645	119 \$.645
		118 \$.650	118 \$.650	119 \$.650	119 \$.650	120 \$.650	120 \$.650
		119 \$.655	119 \$.655	120 \$.655	120 \$.655	121 \$.655	121 \$.655
		120 \$.660	120 \$.660	121 \$.660	121 \$.660	122 \$.660	122 \$.660
		121 \$.665	121 \$.665	122 \$.665	122 \$.665	123 \$.665	123 \$.665
		122 \$.670	122 \$.670	123 \$.670	123 \$.670	124 \$.670	124 \$.670
		123 \$.675	123 \$.675	124 \$.675	124 \$.675	125 \$.675	125 \$.675
		124 \$.680	124 \$.680	125 \$.680	125 \$.680	126 \$.680	126 \$.680
		125 \$.685	125 \$.685	126 \$.685	126 \$.685	127 \$.685	127 \$.685
		126 \$.690	126 \$.690	127 \$.690	127 \$.690	128 \$.690	128 \$.690
		127 \$.695	127 \$.695	128 \$.695	128 \$.695	129 \$.695	129 \$.695
		128 \$.700	128 \$.700	129 \$.700	129 \$.700	130 \$.700	130 \$.700
		129 \$.705	129 \$.705	130 \$.705	130 \$.705	131 \$.705	131 \$.705
		130 \$.710	130 \$.710	131 \$.710	131 \$.710	132 \$.710	132 \$.710
		131 \$.715	131 \$.715	132 \$.715	132 \$.715	133 \$.715	133 \$.715
		132 \$.720	132 \$.720	133 \$.720	133 \$.720	134 \$.720	134 \$.720
		133 \$.725	133 \$.725	134 \$.725	134 \$.725	135 \$.725	135 \$.725
		134 \$.730	134 \$.730	135 \$.730	135 \$.730	136 \$.730	136 \$.730
		135 \$.735	135 \$.735	136 \$.735	136 \$.735	137 \$.735	137 \$.735
		136 \$.740	136 \$.740	137 \$.740	137 \$.740	138 \$.740	138 \$.740
		137 \$.745	137 \$.745	138 \$.745	138 \$.745	139 \$.745	139 \$.745
		138 \$.750	138 \$.750	139 \$.750	139 \$.750	140 \$.750	140 \$.750
		139 \$.755	139 \$.755	140 \$.755	140 \$.755	141 \$.755	141 \$.755
		140 \$.760	140 \$.760	141 \$.760	141 \$.760	142 \$.760	142 \$.760
		141 \$.765	141 \$.765	142 \$.765	142 \$.765	143 \$.765	143 \$.765
		142 \$.770	142 \$.770	143 \$.770	143 \$.770	144 \$.770	144 \$.770</

BRASS

List of July 22, 1903

Price Per Gross

$3^{1/2}''$	$3''$	$2^{1/2}''$	$2''$	$1^{1/2}''$	$1''$
No.	No.	No.	No.	No.	No.
0 8 .84	0 8 .84	1 8 .92	1 8 .96	2 8.12	3 \$1.65
1 .84	1 .87	2 .96	2 1.00	3 1.18	3 1.50 4 1.70
2 .88	2 .92	3 1.02	3 1.08	4 1.25	4 1.55 5 1.75
3 .92	3 .97	4 1.08	4 1.15	5 1.40	5 1.60 6 1.80
4 .97	4 1.04	5 1.20	5 1.30	6 1.55	6 1.65 7 2.25
5 1.04	5 1.12	6 1.30	6 1.40	7 1.75	7 1.90 8 2.45
	6 1.20	7 1.45	7 1.60	8 2.00	8 2.20 9 2.80
	7 1.35	8 1.65	8 1.85	9 2.30	9 2.50 10 3.15
	8 1.50	9 1.90	9 2.10	10 2.65	10 2.90 11 3.65
		10 2.15	10 2.40	11 3.00	11 3.35 12 4.10
			11 2.65	12 3.35	12 3.70 13 4.55
			12 3.00	13 3.70	13 4.10 14 5.05
			13 3.35	14 4.10	14 4.55 15 5.60
			14 3.70	15 4.55	15 5.05 16 6.65
			15 4.10	16 5.05	16 5.60 18 7.40
			16 4.55		

$3^{1/2}''$	$3''$	$2^{1/2}''$	$2''$	$1^{1/2}''$	$1''$
No.	No.	No.	No.	No.	No.
3 \$2.10	4 \$2.95	6 \$3.95	6 \$5.15	8 \$6.85	9 89.40 9 11.50
4 2.20	5 3.05	7 4.00	7 5.20	9 6.95	10 9.50 10 11.65
5 2.25	6 3.10	8 4.10	8 5.25	10 7.05	11 9.60 11 11.80
6 2.35	7 3.20	9 4.20	9 5.30	11 7.25	12 9.70 12 11.95
7 2.45	8 3.30	10 4.30	10 5.40	12 7.50	13 9.85 13 12.15
8 2.65	9 3.65	11 5.35	11 6.15	13 8.00	14 10.75 14 12.25
9 3.20	10 4.25	12 6.05	12 6.85	14 8.80	15 11.85 15 13.00
10 3.50	11 4.65	13 6.70	13 7.55	15 10.75	16 13.00 16 14.20
11 4.10	12 5.35	14 7.35	14 8.45	16 11.90	17 14.30 17 15.65
12 4.65	13 5.95	15 8.05	15 9.75	17 13.00	18 16.95 18 18.40
13 5.35	14 6.65	16 9.50	16 10.70	18 15.40	20 19.85 20 21.60
14 5.85	15 7.60	17 10.45	17 11.70	20 18.00	22 23.00 22 25.00
15 6.55	16 8.35	18 12.40	18 13.90	22 20.95	24 25.50 24 28.00
16 7.20	17 9.15	20 14.50	20 16.30	24 23.30	
17 7.85	18 10.85	22 16.85	22 18.90		
18 9.35	20 12.65	24 18.90	24 21.00		
20 10.45	22 14.50				

TAPER PINS

STANDARD TAPER PINS



		PRICE, PER HUNDRED									
Number		00	0	1	2	3	4	5	6	7	8
Dist. of Large End	inches	136	156	172	193	219	250	289	341	409	495
Appt. Practical Size	"	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$1\frac{7}{8}$	2
Length, inches	$1\frac{1}{2}$	1.80	1.80	2.00	.....	.....	.....	.....	.....	.....	.....
	$1\frac{3}{4}$	1.80	1.80	2.00	2.10	2.30	2.50	2.75	3.00	.....	.....
	2	2.05	2.05	2.25	2.35	2.55	2.75	3.00	3.25	3.75	.....
	$2\frac{1}{4}$	2.30	2.30	2.50	2.60	2.80	3.00	3.25	3.50	4.00	4.50
	$2\frac{1}{2}$	2.55	2.55	2.75	2.85	3.05	3.25	3.50	3.75	4.25	5.00
	$2\frac{3}{4}$	2.80	2.80	3.00	3.10	3.30	3.50	3.75	4.00	4.50	5.40
	3	3.05	3.05	3.25	3.35	3.55	3.75	4.05	4.35	4.75	5.80
	$3\frac{1}{4}$	3.30	3.30	3.50	3.60	3.80	4.00	4.40	4.75	5.25	6.25
	$3\frac{1}{2}$	3.55	3.55	3.75	3.85	4.05	4.25	4.75	5.25	5.75	6.75
	$3\frac{3}{4}$	.....	3.80	4.00	4.10	4.30	4.50	5.10	5.70	6.25	7.25
	4	.....	4.05	4.25	4.35	4.55	4.75	5.45	6.25	6.75	7.80

TAPER PIN ASSORTMENT

Taper Pins are also carried in two different assortments, with a larger number of the most popular sizes than the less used.



LARGE

ASSORTMENT

Contains 50 assorted
sized Taper Pins
from 1" to 1 3/4" in
length.

List Price.

Per Box.....\$1.00

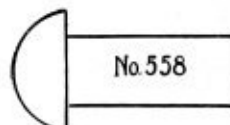
SMALL ASSORTMENT

Contains 40 assorted sized Taper Pins from 1" to 2 3/4" in length; larger number most popular sizes than less used sizes.

List Price, per Box.....	\$1.00
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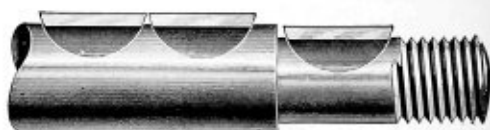
IRON RIVETS

Oval or Cone Heads



Carried in the following diameters: $\frac{3}{16}$ " , $\frac{1}{4}$ " ,
 $\frac{9}{32}$ " , $\frac{5}{16}$ " , $\frac{3}{8}$ " , $\frac{7}{16}$ " , $\frac{1}{2}$ " . Length from $\frac{1}{4}$ " to 1".
 Iron Rivets. List Price, per lb.....\$.27

WHITNEY KEYS



Extensively used in automobile repair work. Whitney Keys are packed in two assortments; the Shop Assortment consisting of 100 assorted size Keys varying from $\frac{1}{8}$ "x $\frac{1}{8}$ " to $1\frac{1}{8}$ "x $5\frac{1}{8}$ ". Ford Assortment consists of 12 Whitney Keys or one complete set for Ford cars. A circular is included in Ford Assortment, giving complete data on the parts, number of keys, Ford factory number, etc., as used in Ford cars.

Shop Assortment	Whitney Keys	List Price	\$3.50
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Shop Assortment Whitney Keys.	List Price	\$3.50
Ford Assortment Whitney Keys.	List Price	.60

SPRING COTTERS



Packed in Boxes of 500 and 1,000 of One Size.
Price Per 1,000

Length Inches	Diameter							
	1/16 & 3/32	1/8	5/32	3/16	7/32	1/4	5/16	3/8
	16-13	11	9	7	5	4	1	
1/2	\$3.50	5.00	7.00					
3/4	4.15	5.85	8.15	11.10				
1	4.80	6.70	9.30	12.80	18.00	20.00	32.50	
1 1/4	5.45	7.55	10.45	14.50	20.80	23.50	37.50	
1 1/2	6.10	8.40	11.60	16.20	23.60	27.00	42.50	72.00
1 3/4	6.75	9.25	12.75	17.90	26.40	30.50	47.50	79.20
2	7.40	10.10	13.90	19.60	29.20	34.00	52.50	86.40
2 1/4		10.95	15.05	21.30	32.00	37.50	57.50	93.60
2 1/2		11.80	16.20	23.00	34.80	41.00	62.50	100.80
2 3/4				24.70	37.60	44.50	67.50	108.00
3				26.40	40.40	48.00	72.50	115.20
3 1/4						51.50	77.50	122.40
3 1/2						55.00	82.50	129.60
3 3/4						58.50	87.50	136.80
4						62.00	92.50	144.00
5								328.50
6								388.50

"TOURIST" COTTER PIN ASSORTMENT



Tourist Assortment Cotter Pins. List Price.....\$.25

COTTER PINS
Repair shop Assortment

Repair Shop Assortment Cotter Pins. List Price, \$1.50

STEEL WASHERS

Carried in bulk. Also in 1 and 5 lb. boxes.

Diam.	Size Hole	Washers per lb.	Diam.	Size Hole	Washers per lb.
3/8"	1/4"	440	2"	3/8"	10
3/4"	1/2"	156	2 1/4"	1/2"	8 1/2
7/8"	5/8"	112	2 1/2"	1 1/8"	6
1"	3/4"	68	2 3/4"	1 1/4"	5
1 1/4"	1"	43	3"	1 3/8"	4
1 1/2"	1 1/8"	26	3 1/4"	1 1/2"	3 1/2
1 3/4"	1 1/4"	22	3 1/2"	1 3/4"	2 3/4
1 7/8"	1 1/2"	13	3 3/4"	1 3/4"	2 1/2
List Price per lb.					\$.30

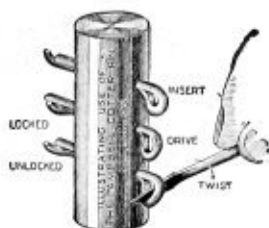
CAMPBELL HAMMER LOCK COTTER
PINS

Packed in boxes of 500 and 1,000 of one size.

N O T E.—Campbell Cotter Pins use same List Prices as Spring Cotter Pins given above.



PAT. MARCH 1912

CAMPBELL HAMMER LOCK COTTER
PINS

Garage Assortment



3,000 Cotter Pins in sizes most used by the auto repair shop. Packed in strong wooden box. Assortment consists of a larger quantity of the most popular sizes—a smaller quantity of the less used sizes.

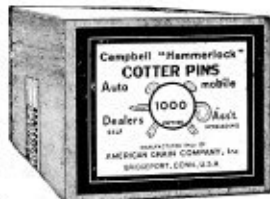
Garage Assortment Campbell Cotter Pins.

List Price\$1.50

CAMPBELL HAMMER LOCK COTTER
PINS

Dealers Assortment

1,000 Cotter Pins—sizes most commonly used. Packed in strong pasteboard carton. Assortment includes larger quantity of most popular sizes—smaller quantity less used sizes.



Dealers' Assortment Campbell Cotter Pins.

List Price\$.60

CAMPBELL HAMMER LOCK COTTER
PINS

Auto Kit Assortment

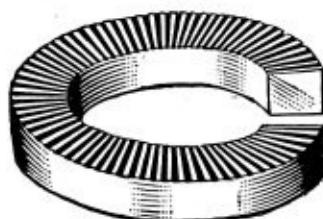


100 Cotter Pins of the most popular sizes, put up in nickel plated brass screw top box. A valuable addition to the repair kit. Packed 12 boxes to carton.

Auto Kit Assortment Campbell Cotter Pins.

List Price\$.25

LOCK WASHERS



Packed
100 and 1,000
of one size
in box.

Size Bolt	— Size Steel —		List Price Per 100
	Width	Thickness	
$\frac{1}{8}$ "	$\frac{1}{8}$ "	x $\frac{3}{64}$ "	\$.13½
$\frac{1}{4}$ "	$\frac{5}{64}$ "	x $\frac{1}{16}$ "	.27
$\frac{1}{2}$ "	$\frac{1}{8}$ "	x $\frac{3}{32}$ "	.50
$\frac{3}{8}$ "	$\frac{1}{8}$ "	x $\frac{3}{32}$ "	.57
$\frac{7}{8}$ "	$\frac{11}{64}$ "	x $\frac{1}{8}$ "	.97
$\frac{1}{2}$ "	$\frac{11}{64}$ "	x $\frac{1}{8}$ "	1.03½
$\frac{1}{8}$ "	$\frac{13}{64}$ "	x $\frac{5}{32}$ "	1.33½
$\frac{5}{8}$ "	$\frac{13}{64}$ "	x $\frac{5}{32}$ "	1.43½
$\frac{11}{16}$ "	$\frac{1}{4}$ "	x $\frac{3}{8}$ "	1.87
$\frac{3}{4}$ "	$\frac{1}{4}$ "	x $\frac{3}{8}$ "	1.97
$\frac{7}{8}$ "	$\frac{17}{64}$ "	x $\frac{1}{2}$ "	2.27
1"	$\frac{1}{8}$ "	x $\frac{1}{4}$ "	3.30
$1\frac{1}{8}$ "	$\frac{1}{8}$ "	x $\frac{1}{8}$ "	4.03½

LOCK WASHERS

No. 5 Garage Assortment



A very convenient assortment for the garage or repair shop. Consists of nine sizes of Lock Washers varying from $\frac{1}{8}$ " to $\frac{3}{4}$ ", with a larger number of the most used sizes. Assortment is packed in strong wood box with separate compartments for each size Lock Washer, preventing the usual "hunting for the right size." Assortment consists of the following:

Quantity	Size Bolt	Quantity	Size Bolt
100	$\frac{1}{8}$ "	40	$\frac{1}{2}$ "
100	$\frac{1}{4}$ "	20	$\frac{3}{8}$ "
100	$\frac{1}{2}$ "	20	$\frac{5}{8}$ "
100	* $\frac{3}{8}$ "	10	$\frac{3}{4}$ "
40	$\frac{1}{8}$ "		

* Largely used on Fords.

Garage Lock Washer Assortment.

List Price, Each.....\$2.25

LOCK WASHER COUNTER DISPLAY
ASSORTMENT

Consists of a handsome enameled steel stand, size 16" x 24", with a complete stock of Lock Washers in the sizes as listed below. Display Stand is arranged so that the dealer is enabled to neatly display his stock of Lock Washers, while a convenient bin is provided on back of stand for carrying surplus stock.

Lock Washers are packed 100 of one size in box, excepting the small assortments, which contain 45 "most popular sizes." Assortment includes the following Lock Washers:

Quantity	Size Bolt	Quantity	Size Bolt
1000	$\frac{1}{8}$ "	500	$\frac{1}{2}$ "
1000	$\frac{1}{4}$ "	100	$\frac{3}{8}$ "
1000	$\frac{1}{2}$ "	200	$\frac{5}{8}$ "
1000	$\frac{3}{8}$ "	100	$\frac{3}{4}$ "
500	$\frac{1}{8}$ "		

24 Boxes—No. 39-S Assortment, 45 assorted Lock Washers.

Lock Washer Display Stand Assortment.

List Price Complete.....\$22.50

"TOURIST" LOCK WASHER ASSORT-
MENT

Consists of 50 assorted size Lock Washers, including all the most popular sizes used on automobiles. A larger number of most popular sizes and a smaller number of less used sizes is included with this assortment.

Tourist Lock Washer Assortment. List Price, \$ 25

MECHANICIAN KIT No. 900

Forty Pieces



A complete assortment of high grade tools, including every tool frequently used by the repair man. The assortment includes the following tools:

Nos. 23, 25, 27, 29, 31 semi-finished 15 degree double head wrench; 10" wood handle Stillson wrench; No. 1 machinists' bearing scraper; 8" ball pein hammer; 9" monkey wrench; 5" nickle bicycle wrench; 3/4" spark plug socket wrench; 6" combination pliers; 3", 5" and 9" screw drivers; 8" file with handle; 3/8" and 1/2" solid punches; 3/8" drift punch; 1/2" cap chisel; cotter pin extractor; 6" side cutting pliers; 5" off-set screw driver; 3 sheets emery cloth; 7" round file with handle; soldering iron with handle; soldering paste; 15 and 20 gauge copper wire; 8" hack saw and frame; 4" flat file with handle; 1/2" cold chisel; 3/8" cold chisel; wire solder; soldering torch; spark plug brush; 8" flat file with handle; 2 1/2" clamp; one box assorted cotters.

S. A. E. standard wrenches can be furnished in this kit if desired.

No. 900 Mechanician Kit complete in heavy waterproof canvas kit. List Price.....\$26.00

STERLING KIT No. 907

Fourteen Pieces



A low priced kit containing the most needed tools. Every tool guaranteed highest quality.

Contains the following tools: Nos. 23, 25, 29 unfinished

15 degree angle double head wrenches; alligator wrench; 9" steel monkey wrench; 3" and 4" screw drivers; 3/8" solid punch; 3/8" center punch; 1/2" cold chisel; 6" combination pliers; 8 oz. ball pein hammer; cotter pin extractor; one box assorted cotters. Packed in strong waterproof canvas case.

E. S. A. standard wrenches can be furnished in this kit if preferred.

No. 907 Sterling Kit, Complete, List Price.....\$5.00

LITTLE ROADSTER KIT No. 909

Nine Pieces

An inexpensive kit for small cars, containing only those tools frequently needed. Every tool guaranteed highest quality.

Consists of the following tools: Nos. 23, 25, 29 unfinished 15-degree angle double head wrenches, 9" steel monkey wrench, 4" screw driver, 3/8" solid punch, 3/8" cold chisel, 6" combination pliers, 8 oz. ball pein hammers. Packed in strong waterproof canvas case.

S. A. E. standard wrenches can be furnished in preferred.

No. 909 Little Roadster Kit, Complete. List Price.....\$3.60

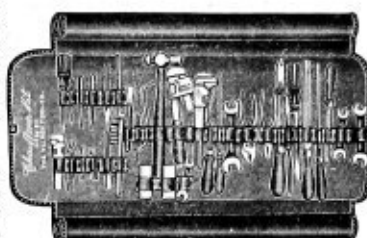


CHAUFFEURS' KIT No. 901

Thirty-four Pieces

A medium priced kit which includes a complete set of high grade tools necessary for ordinary repairs.

The assortment consists of the following: Nos. 23, 25, 27, 29 semi-



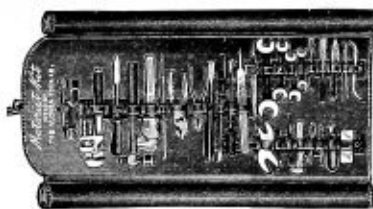
finished 15 degree angle double head wrenches; 10" wood handle Stillson wrench; No. 1 machinists' bearing scraper; 8oz. ball pein hammer; 9" auto monkey wrench; 6" combination pliers; 6" side cutting pliers; 3", 5" and 9" screw drivers; 5" off-set screw driver; 1/2" solid punch; 3/8" solid punch; 3/8" drift punch; 3/8" center punch; 3/8" cold chisel; 1/2" cold chisel; 1/2" cape chisel; cotter pin extractor; 4" and 8" flat files with handles; 7" round file; 8" square file with handle; one box assorted cotters; spark plug brush; wire solder; soldering iron with handle; 15 and 20 gauge copper wire; box soldering paste.

S. A. E. standard wrenches can be furnished in this kit if preferred. Packed in heavy waterproof canvas case.

No. 901 Chauffeurs' Kit, Complete. List Price, \$19.00

MOTORIST KIT No. 902

Thirty Pieces



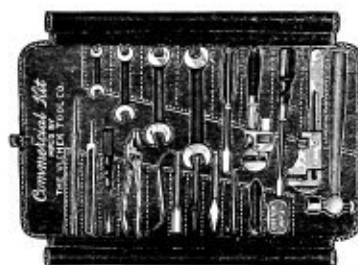
Contains all tools necessary for making ordinary repairs. Particularly recommended to the average car owner.

Contains the following tools: Nos. 23, 25, 27, 31 semi-finished 15 degree angle double head wrenches; 10" wood handle Stillson wrench; double jaw "ready grip" wrench; No. 1 machinists' bearing scraper; 8 oz. ball pein hammer; 3", 5" and 9" screw driver; 5" off-set screw driver; 6" ebony combination pliers; 3/8" solid punch; 3/8" center punch; 3/8" cold chisel; 1/2" cold chisel; 1/2" cape chisel; cotter pin extractor; 9" monkey wrench; 8" flat file; 8" round file; 6" three square file; file handle; 5" bicycle wrench; 6" side cutting pliers; spark plug wrench; bundle 15 and 20 gauge copper wire; one box assorted cotters.

Heavy waterproof canvas case with harness leather straps.

S. A. E. standard wrenches will be furnished if preferred.

No. 902 Motorist Kit Complete. List Price.....\$18.50

COMMERCIAL KIT No. 904**Twenty Pieces**

Especially intended for trucks; includes large heavy tools of particular strength.

Consists of the following tools: Nos. 23, 27, 31, 34, 15 degree angle double head wrenches; 10"

wood handle Stillson wrench; 11" auto monkey wrench, with tire iron handle; 3", 6" and 9" screw drivers; 6" off-set screw driver; 7" flat file; 7" round file; file handle; 8" combination pliers; 1/2" solid punch; 1/2" cold chisel; 1/2" cape chisel; cotter pin extractor; 1 lb. machinists' ball pein hammer; one box assorted cotter pins.

S. A. E. standard wrenches can be furnished if preferred. Packed in waterproof canvas case.

No. 904 Commercial Kit Complete. List Price, \$13.00

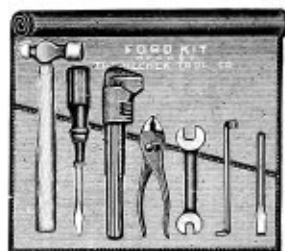
TOURIST KIT No. 906**Twenty Pieces**

Intended for the car owner who prefers to do most of his own repair work. Every tool guaranteed to be of the highest quality.

The assortment consists of the following tools: Nos. 23, 25, 27, 29 semi-finisher 15 degree angle double head wrenches; alligator wrench with tire iron handle; 3", 5" and 9" screw drivers; 6" combination pliers; 3/4" solid punch; 3/8" center punch; 3/8" cold chisel; 3/8" cape chisel; cotter pin extractor; 8 oz. ball pein hammer; No. 1 machinists' bearing scraper; 7" flat file and handle; one box assorted cotteners.

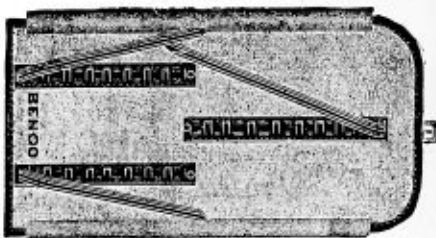
S. A. E. finished wrenches can be furnished if this kit is preferred. Packed in waterproof canvas case.

No. 906 Tourist Kit Complete. List Price.....\$8.50

No. 910 TOOL KIT FOR FORDS**Seven Pieces**

hammer, 3/8" cold chisel. Packed in strong waterproof canvas case.

No. 910 Kit for Ford Car, Complete. List Price.....\$3.25

TOOL ROLL

Made of heavy brown army duck with edges bound with strip of leather and genuine leather straps, used for holding tools. These tool rolls are well made for hard service. Three sizes:

No. 31 Holds 31 Tools. List Price, Each.....\$1.75

No. 24 Holds 24 Tools. List Price, Each.....1.45

No. 12 Holds 12 Tools. List Price, Each.....1.10

HAN-D WRENCH SET

Consists of six strong, thin, drop forged, tempered steel Wrenches, held together by small knurled handle. Largest range 7" long, smallest 5 1/4" long. Thickness, 1/8". Total weight, 15 oz. Each wrench has two openings as follows: 3/8"—13/32"; 7/16"—15/32"; 1/2"—17/32"; 5/8"—1 1/8"; 21/32"—1 1/4"; 23/32"—3/4". Neatly finished in mottled blue.

Han-D Wrench Set, Complete. List Price.....\$1.25

SEXTO WRENCH SET

Consists of six double-end "thin" wrenches with 12 different openings. Smallest wrench is 2 1/2" long, largest 4 1/2" long. Especially useful for adjustments on generators, valves, etc. Each wrench has sizes of openings stamped on it. The following size openings are on these wrenches: 1/4", 7/32", 1/8", 9/32", 3/16", 11/32", 1/2", 15/32", 5/8", 17/32". Made of drop forged steel, 1/10" thick. Knurled screw holds them together.

Sexto Wrench Set, Complete, List Price.....\$.75

DISPLAY CABINET

With orders for 15 or more Sexto Wrenches a handsome Lithographed Metal Counter Display Container is furnished Free. There is a big demand for this kind of wrench. Set one of these Display Cases on your counter and triple your sales on this handy little wrench!

15° ANGLE "THIN" WRENCHES

For U. S. Standard and S. A. E. (A. L. A. M.) Nuts
An Excellent Light Service Wrench



No.	For U. S. Standard Nuts; Size Bolts	Openings Milled	Thick-ness Heads	LIST PRICES		
				Un-finished	Semi-finished	Fin-ished
623	3/16 & 1/4	13/32 & 1/2	9/64 & 5/32	\$.17	\$.25	\$.38
624	3/16 & 5/16	13/32 & 19/32	9/64 & 5/32	.17	.25	.38
625	1/4 & 5/16	1/2 & 19/32	9/64 & 5/32	.17	.25	.38
626	1/4 & 3/8	1/2 & 11/16	5/32 & 7/32	.22	.32	.48
627	5/16 & 3/8	19/32 & 11/16	5/32 & 7/32	.22	.32	.48
628	5/16 & 7/16	19/32 & 25/32	5/32 & 7/32	.22	.32	.48
629	3/8 & 7/16	11/16 & 25/32	7/32 & 1/4	.28	.40	.60
630	3/8 & 1/2	11/16 & 7/8	7/32 & 1/4	.28	.40	.60
631	7/16 & 1/2	25/32 & 7/8	7/32 & 1/4	.28	.40	.60
632	7/16 & 9/16	25/32 & 31/32	1/4 & 5/16	.40	.56	.80
633	1/2 & 9/16	7/8 & 31/32	1/4 & 5/16	.40	.56	.80
634	1/2 & 5/8	7/8 & 1-1/16	1/4 & 5/16	.40	.56	.80
635	9/16 & 5/8	31/32 & 1-1/16	5/16 & 3/8	.60	.84	1.15
636	9/16 & 3/4	31/32 & 1-1/4	5/16 & 3/8	.60	.84	1.15
637	9/16 & 3/4	1-1/16 & 1-1/4	5/16 & 3/8	.60	.84	1.15
638	5/8 & 7/8	1-1/16 & 1-7/16	3/8 & 1/2	1.00	1.30	1.75
639	3/4 & 7/8	1-1/4 & 1-7/16	3/8 & 1/2	1.00	1.30	1.75
640	3/4 & 1	1-1/2 & 1-5/8	3/8 & 1/2	1.00	1.30	1.75

15° ANGLE WRENCHES

For U. S. Standard Nuts
An Excellent Heavy-Duty Wrench



No.	For U. S. Standard Nuts; Size Bolts	Openings Milled	Thick-ness Heads	LIST PRICE	
				Semi-finished	Fin-ished
21	1/8 & 3/16	5/16 & 13/32	3/16	\$.17	\$.26
22	1/8 & 1/4	5/16 & 1/2	1/4	.21	.32
23	3/16 & 1/4	13/32 & 1/2	1/4	.21	.32
24	3/16 & 5/16	13/32 & 19/32	9/32	.25	.38
25	1/4 & 5/16	1/2 & 19/32	9/32	.25	.38
26	1/4 & 3/8	1/2 & 11/16	5/16	.31	.46
27	5/16 & 3/8	19/32 & 11/16	5/16	.31	.46
28	5/16 & 7/16	19/32 & 25/32	11/32	.37	.56
29	3/8 & 7/16	11/16 & 25/32	11/32	.37	.56
30	3/8 & 1/2	11/16 & 7/8	13/32	.45	.68
31	7/16 & 1/2	25/32 & 7/8	13/32	.45	.68
32	7/16 & 9/16	25/32 & 31/32	7/16	.55	.85
33	1/2 & 9/16	7/8 & 31/32	7/16	.55	.85
34	1/2 & 5/8	7/8 & 1-1/16	1/2	.68	1.08
35	9/16 & 5/8	31/32 & 1-1/16	1/2	.68	1.08
36	9/16 & 3/4	31/32 & 1-1/4	9/16	.95	1.40
37	5/8 & 3/4	1-1/16 & 1-1/4	9/16	.96	1.40
38	5/8 & 7/8	1-1/16 & 1-7/16	21/32	1.40	1.90
39	3/4 & 7/8	1-1/4 & 1-7/16	21/32	1.40	1.90
40	3/4 & 1	1-1/4 & 1-5/8	3/4	1.90	2.60
41	7/8 & 1	1-7/16 & 1-5/8	3/4	1.90	2.60
42	7/8 & 1-1/8	1-7/16 & 1-13/16	27/32	2.65	3.50
43	1 & 1-1/8	1-5/8 & 1-13/16	27/32	2.65	3.50
44	1 & 1-1/8	1-5/8 & 1-13/16	27/32	2.65	3.50

15° ANGLE WRENCHES

For Hexagon Head Cap Screws
A Medium Heavy Wrench



No.	For Hexagon Head Screw Screws; Diameter Screws	Openings Milled	Thick-ness Heads	LIST PRICES	
				Semi-finished	Fin-ished
721	1/8 & 3/16	5/16 & 3/8	3/16	\$.17	\$.26
722	1/8 & 1/4	5/16 & 7/16	1/4	.21	.32
723	3/16 & 1/4	3/8 & 7/16	1/4	.21	.32
723A	3/16 & 5/16	3/8 & 1/2	1/4	.21	.32
725	1/4 & 5/16	7/16 & 1/2	9/32	.25	.38
725A	1/4 & 3/8	7/16 & 9/16	9/32	.25	.38
725B	5/16 & 3/8	1/2 & 9/16	9/32	.25	.38
726	5/16 & 7/16	1/2 & 5/8	5/16	.31	.46
727	3/8 & 7/16	9/16 & 5/8	5/16	.31	.46
728	3/8 & 1/2	9/16 & 3/4	11/32	.37	.56
729	7/16 & 1/2	5/8 & 3/4	11/32	.37	.56
730	7/16 & 9/16	5/8 & 13/16	13/32	.45	.68
731	1/2 & 9/16	3/4 & 13/16	13/32	.45	.68
731A	1/2 & 5/8	3/4 & 7/8	13/32	.45	.68
731B	9/16 & 5/8	13/16 & 7/8	13/32	.45	.68
732	9/16 & 3/4	13/16 & 1	7/16	.55	.85
733	5/8 & 3/4	7/8 & 1	7/16	.55	.85
734	5/8 & 7/8	7/8 & 1-1/8	1/2	.68	1.08
735	3/4 & 7/8	1 & 1-1/8	1/2	.68	1.08
736	3/4 & 1	1 & 1-1/4	9/16	.96	1.40
737	7/8 & 1	1-1/8 & 1-1/4	9/16	.96	1.40
738	7/8 & 1-1/8	1-1/8 & 1-3/8	21/32	1.40	1.90
739	1 & 1-1/8	1-1/4 & 1-3/8	21/32	1.40	1.90
739A	1 & 1-1/4	1-1/4 & 1-1/2	21/32	1.40	1.90
739B	1-1/8 & 1-1/4	1-3/8 & 1-1/2	21/32	1.40	1.90

22½° ANGLE LIGHT SERVICE WRENCHES

A Long, Light Weight Wrench.



No.	Openings Milled	Thick-ness Heads	LIST PRICES	
			Semi-finished	Fin-ished
675B	3/8 & 7/16	1/4	\$.27	\$.38
675A	3/8 & 1/2	1/4	.27	.38
675	13/32 & 1/2	1/4	.27	.38
677B	1/2 & 9/16	9/32	.34	.47
677	1/2 & 5/8	9/32	.34	.47
679A	9/16 & 11/16	5/16	.43	.58
679	5/8 & 11/16	5/16	.43	.58
681	11/16 & 27/32	3/8	.55	.72
681B	3/4 & 13/16	3/8	.55	.72
681A	3/4 & 7/8	3/8	.55	.72
683	27/32 & 15/16	7/16	.70	.90
683B	7/8 & 1	7/16	.70	.90
683A	15/16 & 1	7/16	.70	.90
685	1 & 1-1/8	1/2	1.00	1.30
685A	1 & 1-1/4	1/2	1.00	1.30
685C	1-1/16 & 1-1/4	1/2	1.00	1.30
685B	1-1/8 & 1-1/4	1/2	1.00	1.30

WILLIAMS' DOUBLE-END WRENCH SETNo. 43
22½° Angle

Consist of six Wrenches fitting all popular size U. S. Std. and S. A. E. Std. Nuts and Cap Screws from ¼" to ¾". Set includes one each of the following wrenches:

No.	Size Openings	List Price	
		Semi-Finished	Finished
760-X	¾" and 1" and 1½"	.25	.38
761-X	1½" and 1¾"	.31	.46
762-X	1¾" and 2"	.40	.60
763-X	2" and 2½"	.53	.78
764-X	2½" and 3"	.72	1.05
765-A	1½" and 1¾"	.96	1.40

Packed in neat canvas roll, as shown in illustration.

Semi-Finished		Finished	
No. 43 Set with Canvas Roll.	List Price	\$3.65	\$5.15

WILLIAMS' DOUBLE-END WRENCH SET

No. 5-S



Consists of a set of five Double-End Engineers' Wrenches, fitting all S. A. E. and U. S. Std. nuts and cap screws from ¼" to ¾" bolt diameter. Set includes:

No.	Openings	List Price, Each
725	1/8" and 1/4"	.38
727	1/4" and 5/16"	.46
731-A	5/16" and 3/8"	.68
33-C	3/8" and 1"	.85
37	1 1/8" and 1 1/4"	1.40

Packed in neat canvas roll.

No. 5-S Wrench Set, with Canvas Roll. List Price \$4.25

WILLIAMS' DOUBLE-END WRENCH SET

No. 34

"Thin" Wrenches for Light Work only



This set is particularly adapted for adjusting valve tappets, etc., and contains no double sizes. Fits all frequently used U. S. Std. Nuts and Cap Screws from ¼" to ¾" bolt diameter. Set includes one each of the following wrenches:

		List Price	
No.	Size Openings	Semi-Finished	Finished
623-D	$\frac{1}{8}$ " and $\frac{1}{4}$ "	\$.25	\$.38
626-X	$\frac{3}{8}$ " and $\frac{11}{16}$ "	.32	.48
628	19/32" and 25/32"	.32	.48
629-D	$\frac{5}{8}$ " and $\frac{3}{4}$ "	.40	.60
634	$\frac{7}{8}$ " and $1\frac{1}{8}$ "	.56	.80
635-E	1" and $1\frac{1}{4}$ "	.84	1.15

Packed in neat canvas rolls, as shown in illustration.

Semi-Finished		Finished	
No. 34 Set with Canvas Roll.	List Price	\$3.15	\$4.35

WILLIAMS' DOUBLE-END WRENCH SET

No. 2-S



"For Light Service."

Fits all S. A. E. Std. nuts and cap screws from ¼" to ¾" bolt diameter. Set includes one each of the five following wrenches:

List Price			
No.	Size Openings	Semi-Finished	Finished
677-S	$\frac{1}{8}$ " and $\frac{1}{4}$ "	\$.34	\$.47
679-S	$\frac{1}{4}$ " and $\frac{5}{16}$ "	.43	.58
681-A	$\frac{3}{8}$ " and $\frac{1}{2}$ "	.55	.72
683-A	$\frac{1}{2}$ " and 1"	.70	.90
685-C	1 $\frac{1}{8}$ " and 1 $\frac{1}{4}$ "	1.00	1.30

Packed in neat canvas roll, as illustrated.

Semi-Finished		Finished	
No. 2-S Wrench Set, with Canvas Roll.	List Price	\$3.50	\$4.50

WILLIAMS' DOUBLE-END WRENCH SET

No. 4

For Extra Heavy Service



Set includes six Double-End Wrenches, fitting all U. S. and S. A. E. Std. Nuts and Cap Screws from ¼" to 1" cap screw diameter.

Carried in both semi-finished and full finished wrenches.

		List Price	
No.	Size Openings	Semi-Finished	Finished
725	$\frac{1}{8}$ " and $\frac{1}{4}$ "	\$.25	\$.38
27-C	$\frac{3}{8}$ " and $\frac{1}{2}$ "	.31	.56
28	19/32" and 25/32"	.37	.56
729	$\frac{5}{16}$ " and $\frac{3}{4}$ "	.37	.56
34	$\frac{3}{8}$ " and $\frac{1}{4}$ "	.68	1.08
736	1" and $1\frac{1}{4}$ "	.68	1.08

Packed in neat canvas roll, as shown in illustration.

Semi-Finished		Finished	
No. 4 Set with Canvas Roll.	List Price	\$3.40	\$4.90

DOUBLE-END ENGINEERS' WRENCH SET No. 4

"GARAGE SET"

Consists of nine wrenches each with two openings, and fitting all U. S. and S. A. E. Std. bolt, nut and cap screw sizes from ¼" to ¾" bolt diameter. A very valuable set of wrenches that every garage needs. Packed in natural wood box with sliding cover. Prices vary slightly, according to finish of wrenches.

No. 4 Garage Set, in Wooden Box. Wrenches	Semi-Finished. List Price	\$2.21
No. 4 Garage Set, in Wooden Box. Wrenches	Finished. List Price	3.38
No. 4 Garage Set, in Wooden Box. Wrenches	Full Finished. List Price	4.02

WOOD HANDLE STILLSON WRENCH



Drop forged from highest grade steel, with jaws, rack and nut hardened. Polished finish. Black hardwood handle securely attached.

Length	Grips	Pipe Size	List Price, Each
6"		1 1/2"	\$2.00
8"		3/4"	2.25
10"		1"	2.50
12"		1 1/4"	3.00
14"		1 1/2"	3.50
18"		2"	5.00
24"		2 1/2"	7.25

STILLSON WRENCH



Drop forged from highest grade steel with jaws, rack and nut hardened, and polished handle, ebony finish.

Size	Price Each	Takes Pipe to	Weight Each	Packed in a Box
6"	\$ 2.00	1 1/2"	5 oz.	6
8"	2.25	3/4"	10 oz.	6
10"	2.50	1"	1 1/2 lbs.	6
14"	3.50	1 1/2"	3 lbs.	6
18"	5.00	2"	4 1/2 lbs.	6
24"	7.25	2 1/2"	8 1/2 lbs.	6
36"	13.50	3 1/2"	14 1/2 lbs.	Bulk

PERFECT HANDLE MONKEY WRENCH

Drop Forged Steel



A well-built wrench with moving parts accurately machined. Handle firmly riveted on—cannot work loose. A fine serviceable tool.

Length	Each	Length	Each
15"	\$3.35	6"	\$1.40
18"	4.40	8"	1.65
21"	5.40	10"	1.95
		12"	2.50

STEEL HANDLE MONKEY WRENCH



Drop forged cast steel, ebony finish. A serviceable medium-priced wrench.

Jaw opens	Length	Length	Length	Length
1 3/4"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
7"	9"	10"	11"	11"
List Price, Each	\$.60	\$.65	\$.85	\$1.10

SPANNER WRENCHES



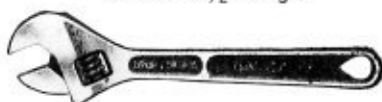
Drop forged steel of extra strong construction. Adjustable by slight thumb pressure. Made in two sizes.

No.	Takes Circle	Length Closed	Each
816	1 1/2" to 4"	10 1/4"	\$1.35
818	2" to 5"	11 1/2"	2.25

Furnished with round or square pin as desired.

ADJUSTABLE END WRENCH

Barcalo 22 1/2° Angle



Drop forged hardened tool steel with thin jaws for work in difficult places. Accurately machined. A high grade tool throughout.

Size	Jaws Open	List Price, Each
4"	7/16"	\$1.10
6"	1 1/8"	1.10
8"	1 3/8"	1.35
10"	1 3/32"	1.75
12"	1 1/4"	2.55
15"	1 7/8"	3.85

Packed in individual pasteboard box.

ADJUSTABLE OPEN END ANGLE WRENCH

B-M No. 40



Drop forged from high grade steel with jaws accurately milled and hardened. Polished all over except web.

Length	6"	8"	10"
Jaws open	3/4"	1"	1-1/9"
List Price, Each	\$1.20	\$1.44	\$1.80

HEAVY DUTY ADJUSTABLE "S" WRENCH

B. & S.



A new design, combining strength and utility. Drop forged and tempered. Polished head, black enameled handle.

No.	Length	Capacity	List Price, Each
1	6"	1 1/8"	\$1.85
2	8"	1 1/4"	2.25
3	10"	1 3/8"	3.30

ADJUSTABLE ALLIGATOR WRENCH

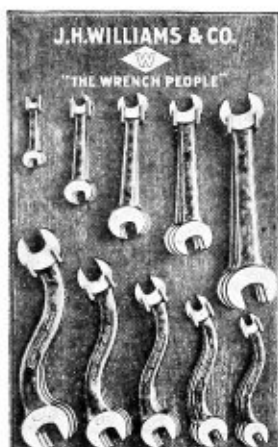
Kraeuter No. 365



Drop forged tool steel with one movable jaw. Length, 7". Black finished with polished jaws. Adjustable Alligator Wrench. List Price, Each, \$1.75

SILENT SALESMAN WRENCH BOARD

Williams' No. D



assortment consists of six each of finished wrenches.

No.	Size Openings	List Price, Each
7231A	$\frac{3}{8}$ " and $\frac{1}{2}$ "	\$.21
27-C	$\frac{1}{4}$ " and $\frac{11}{16}$ "	.31
731-A	$\frac{3}{4}$ " and $\frac{7}{8}$ "	.45
33-C	$\frac{1}{2}$ " and 1"	.55
737	$1\frac{1}{8}$ " and $1\frac{1}{4}$ "	.96

LIGHT SERVICE WRENCHES

No.	Size Openings	List Price, Each
677-S	$\frac{1}{8}$ " and $\frac{1}{4}$ "	\$.34
679-S	$\frac{1}{4}$ " and $\frac{5}{8}$ "	.43
681-A	$\frac{3}{4}$ " and $\frac{7}{8}$ "	.55
683-A	$\frac{1}{2}$ " and 1"	.70
685-C	$1\frac{1}{8}$ " and $1\frac{1}{4}$ "	1.00

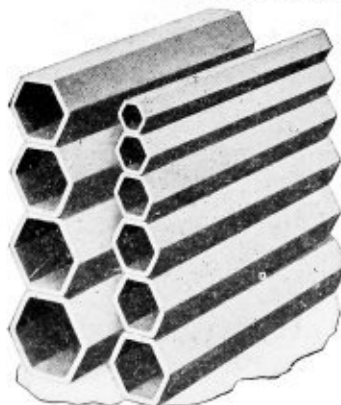
Each one of the above wrenches has been especially selected as being one of the best selling sizes.

Williams' Silent Salesman Wrench Board "D"

with 60 Williams' Wrenches. List Price.....\$33.00

HEXAGON SHELBY TUBING

Seamless Drawn



Just the right size for fitting S. A. E. or U. S. Std. nuts and bolts. Saves expense of buying specially made sockets. Simply buy one complete set and cut sockets as desired. Sold in complete sets of 10 different sizes in 6", 9", and 12" lengths, fitting all sized nuts and bolts from $\frac{1}{4}$ " to 1" inclusive.

Hexagon Tubing, 10 different sizes, 6" length.
List Price, per set.....\$3.00

Hexagon Tubing, 10 different sizes, 9" length.
List Price, per set.....4.50

Hexagon Tubing, 10 different sizes, 12" length.
List Price, per set.....6.00

NOTE.—We do not sell less than complete sets.

UNIQUE SOCKET SET

Standard Set



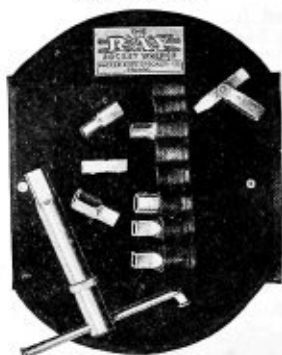
A small, compact tool kit that is invaluable in the motorist's tool box. Sockets fit all "most used" bolts and nuts. Outfit includes one 7" socket handle; 2 screw driver bits; 7 sockets (to fit all size nuts from $\frac{1}{4}$ " to $\frac{1}{2}$ " U. S. Std.; $\frac{5}{16}$ " to $\frac{11}{16}$ " S. A. E. Std.; cap screws from $\frac{1}{8}$ " to $\frac{5}{8}$ " inclusive. Packed in strong fibroid case. Weight, 18 oz.

Unique Socket Set, List Price.....\$3.50

RAY SOCKET WRENCH SET

No. 6

SMALL SET



A small set, packed in neat canvas case which will take care of most frequently used and bolt sizes. Set contains the following:

- 1 Folding Nicked, Plain or Ratchet Handle
- 1 Double Blade Screw Driver Bit
- 1 Short extension Bar, and
- 6 Pressed Steel Sockets as follows: Size of hexagon opening, 17/32, 19/32, 21/32, 23/32, 13/16, 29/32, fitting all U. S. Std. nuts and bolts from $\frac{1}{8}$ " to $\frac{1}{2}$ " bolt diameter, and all A. L. A. M. Std. from 5/16" to 9/16" inclusive.

No. 6 Ray Socket Wrench Set, with Plain Handle.

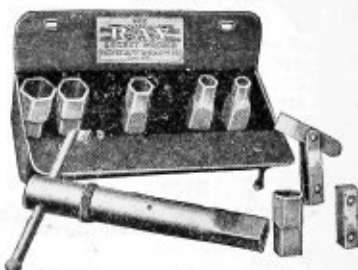
List Price.....\$3.50

No. 6 Ray Socket Wrench Set, with Ratchet

Handle. List Price.....5.00

RAY SOCKET WRENCH SET

No. 6-A



Contains the same assortment of sockets, etc., as No. 6 Set, but is packed in fibroid case.

No. 6-A Ray Socket Wrench Set, with Plain Handle. List Price.....\$3.50

No. 6-A Ray Socket Wrench Set, with Ratchet Handle. List Price.....5.00

RAY SOCKET WRENCH SET

No. 11



This set contains the most used socket sizes and tools and is packed in neat enameled steel case. Particularly adapted for the auto tool box.

Set contains the following:

- 1 Nickel Reversible Ratchet Handle
- 1 Double Blade Screw Driver Bit
- 1 Long Extension
- 1 Short Extension
- 1 Universal Joint
- 1 Spark Plug Socket, 29/32" x 4" long, and
- 10 Pressed Steel Sockets as follows: Hexagon Sockets, 15/32, 17/32, 19/32, 21/32, 23/32, 13/16, 29/32, 1-3/32, fitting 1/4" to 3/4" U. S. Std. nuts and bolts, and fitting 5/16" to 9/16" A. L. A. M. Std. nuts and screws; also 2 square sockets with 13/32" and 17/32" openings.

No. 11 Ray Socket Wrench Set. List Price.....\$7.50

RAY SOCKET WRENCH SET

No. 22



A combination set which includes all size Sockets needed for ordinary repair work and several other valuable tools. Set is packed in neat pressed steel case. Contains the following tools:

- 1 Nickel Reversible Ratchet Handle
- 1 Double Blade Screw Driver Bit
- 1 Long Extension
- 1 Short Extension
- 1 Universal Joint
- 1 Pressed Steel Socket, 29/32" x 4" long
- 20 Steel Hexagon Sockets of the following size openings: 15/32, 1-1/2, 17/32, 19/32, 5/8, 21/32, 11/16, 23/32, 25/32, 13/16, 27/32, 7/8, 29/32, 31/32, 1, 1-1/32, 1-3/32, 1-5/32, 1-9/32, fitting all Std. hexagon nuts and bolts from 1/4" to 3/4" bolt size, and 5/16" to 3/4" bolt size A. L. A. M. Std. hexagon nuts and bolts; also 2 square sockets with 15/32" and 19/32" openings.

No. 22 Ray Socket Wrench Set. List Price.....\$10.00

MOSSBERG SOCKET WRENCH SET

No. 13



A set arranged to contain all important Hexagon Sockets, including Spark Plug Sockets, Extension Bar, and No. 355 Ratchet Handle. To those desiring maximum value for minimum price we recommend Set No. 13. Contains besides the above mentioned tools 15 Rust-proof Pressed Steel Sockets of the following inside dimensions: 13/32", 15/32", 17/32", 19/32", 21/32", 23/32", 25/32", 1", 27/32", 29/32", 1-1/32", 1-3/32".

No. 13 Mossberg Socket Wrench Set, in Neat Wooden Box. List Price.....\$5.50

MOSSBERG SOCKET WRENCH SET

No. 10—Automobile Set



A valuable set for the owner's use or for any garage or repair shop. Set includes wooden box with the following tools:

Mossberg Ratchet Handle, No. 350; Extension Bar, 9 1/2" long, No. 351; Universal Joint No. 336; Double-End

Offset Screw Driver; 21 Rustproof Finished Pressed Steel Sockets of the following size Hexagon openings: 15/32", 1/2", 17/32", 19/32", 5/8", 21/32", 1 1/8", 23/32", 25/32", 1 1/4", 27/32", 7/8", 29/32", 31/32", 1", 1-1/32", 1-3/32", 1-5/32", 1-9/32"; 2 Special Hexagon Spark Plug Sockets, 4" long with openings 29/32", 1-5/32".

No. 10 Mossberg Socket Wrench Set, Complete in Wooden Box. List Price.....\$10.00

SUPER UNIQUE RATCHET SOCKET WRENCH SET

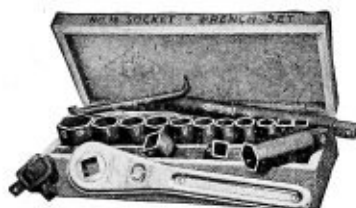


A low-priced practical socket wrench set which includes the following: one 9" drop forged handle, one 8" extension bar with thimble attached, one 5" hexagon socket to fit all nuts and bolts from 1/4" to 3/4" inclusive bolt diameter, 1/4" x 1" cap screw diameter. Packed in substantial wood box. Weight, 6 lbs.

Super Unique Ratchet Socket Wrench Set. List Price\$12.00

MOSSBERG SOCKET WRENCH SET

No. 16



"For All Small Cars."

This set contains in a concentrated manner every wrench necessary for all small cars, and will enable the motorist to handle his roadside repairs or adjustments with ease, as well as being indispensable in the garage. Contains 1 No. 350 Handle; 1 Tubular Extension Bar, 9 1/2" long, No. 351; 1 Universal Joint, No. 356; 1 Double-End Offset Screw Driver; 14 sizes Sockets, Hexagon and Square in black rust-proof finish. Hexagon size: 17/32", 19/32", 21/32", 23/32", 25/32", 27/32", 29/32", 1-9/32"; Square Socket sizes: 13/32", 15/32", 17/32", 21/32"; 1 Spark Plug Socket, 29/32".

No. 16 Socket Wrench Set, in neat Wood Box.

List Price\$7.50

RAY SOCKET WRENCH SET

No. 31

GARAGE SET



Contains every size socket needed in the garage as well as several other valuable tools. Set comes in neat enameled steel case. With this set the garage is enabled to make all repairs. Set includes:

- 1 Nickeled Reversible Ratchet Handle
- 1 Double Blade Screw Driver Bit
- 1 Long Extension
- 1 Short Extension
- 1 Universal Joint
- 1 Spark Plug Socket, 29/32" x 4" and
- 27 Hexagon Sockets of the following openings:
5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 17/32, 9/16,
19/32, 5/8, 21/32, 11/16, 23/32, 3/4, 25/32, 13/16, 27/32,
7/8, 29/32, 15/16, 31/32, 1, 1-1/32, 1-3/32, 1-5/32, 1-9/32,
fitting U. S. Std. hexagon nuts and bolts from 1/4"
to 3/4" bolt size, and from 1/4" to 3/4" A. L. A. M. Std.
nut and bolt diameter; also 3 square sockets of the
following openings: 13/32, 17/32, 21/32.

No. 31 Ray Socket Wrench Set. List Price.....\$13.00

MOSSBERG SOCKET WRENCH SET

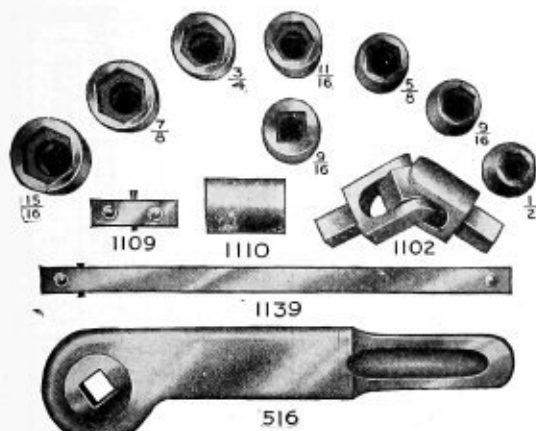
No. 14



A complete medium-priced set—37 steel sockets that fit all U. S. Standard Bolts and Nuts from 1/4" to 3/4" hexagon and up to 1" square; S. A. E. Standard Nuts and Screws from 1/4" to 3/4"; Hexagon Head Cap Screws: Hexagon from 1/4" to 1"; Square from 1/4" to 3/4"; Coach Screws to 3/4", and all Set Screws to 3/4".

No. 14 Socket Wrench Set contains 1 No. 350 Reversible Ratchet Socket Handle; 1 No. 320 "L" Handle; 1 No. 330 "T" Handle; 1 No. 351 Long Extension; 1 No. 336 Universal Joint; 5 Engineers' Wrenches, S. A. E. openings 1/8", 13/32", 1/4", 1/2", 3/4", 5/8", 3/4", 7/8", 1 1/8", 1 1/4", 1 1/2", 1 3/4", 1 7/8", 2", 2 1/4", 2 1/2", 2 3/4", 3", 3 1/4", 3 1/2", 3 3/4", 4", 4 1/4", 4 1/2", 4 3/4", 5", 5 1/4", 5 1/2", 5 3/4", 6", 6 1/4", 6 1/2", 6 3/4", 7", 7 1/4", 7 1/2", 7 3/4", 8", 8 1/4", 8 1/2", 8 3/4", 9", 9 1/4", 9 1/2", 9 3/4", 10", 10 1/4", 10 1/2", 10 3/4", 11", 11 1/4", 11 1/2", 11 3/4", 12", 12 1/4", 12 1/2", 12 3/4", 13", 13 1/4", 13 1/2", 13 3/4", 14", 14 1/4", 14 1/2", 14 3/4", 15", 15 1/4", 15 1/2", 15 3/4", 16", 16 1/4", 16 1/2", 16 3/4", 17", 17 1/4", 17 1/2", 17 3/4", 18", 18 1/4", 18 1/2", 18 3/4", 19", 19 1/4", 19 1/2", 19 3/4", 20", 20 1/4", 20 1/2", 20 3/4", 21", 21 1/4", 21 1/2", 21 3/4", 22", 22 1/4", 22 1/2", 22 3/4", 23", 23 1/4", 23 1/2", 23 3/4", 24", 24 1/4", 24 1/2", 24 3/4", 25", 25 1/4", 25 1/2", 25 3/4", 26", 26 1/4", 26 1/2", 26 3/4", 27", 27 1/4", 27 1/2", 27 3/4", 28", 28 1/4", 28 1/2", 28 3/4", 29", 29 1/4", 29 1/2", 29 3/4", 30", 30 1/4", 30 1/2", 30 3/4", 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WALDEN No. 16 COMBINATION SOCKET WRENCH SET



Includes sixteen sockets, fitting all size bolts and nuts from $\frac{1}{4}$ " to $\frac{7}{8}$ " bolt size. This assortment includes hexagon

sockets for hexagon nuts only.

Assortment includes the following:

No. 516 9" Ratchet Wrench

No. 1139 9" Extension Bar

No. 1102 Universal Joint

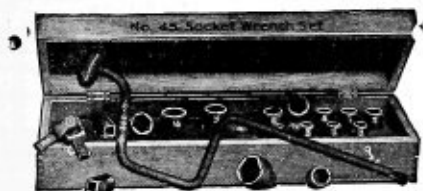
16 Sockets—Hexagonal, 7/16, 1/2, 9/16, 19/32, 5/8, 11/16, 3/4, 25/32, 13/16, 7/8, 15/16, 31/32, 1, 1-1/16, 1-1/8, 1-1/4.

Assortment covers all the various bolt and nut standards. Packed in neat hardwood box. Size 12" x 5 1/4" x 2 1/4". Weight, 9 1/2 lbs.

No. 16 Walden Socket Wrench Set. List Price, \$12.00

MOSSBERG "HEAVY DUTY" SOCKET SPEED BRACE WRENCH SET

No. 45

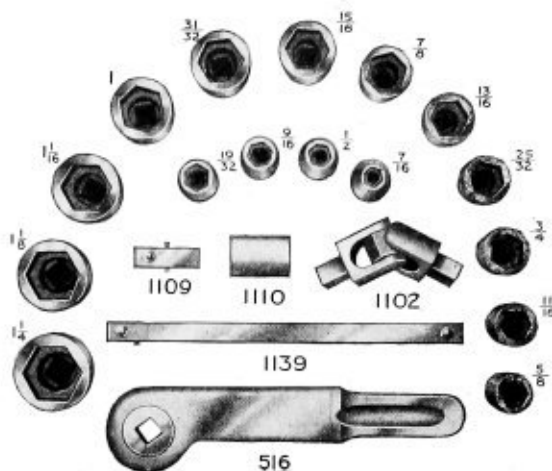


With 15 Sockets, fitting all U. S. Std. and S. A. E. bolts, nuts or screws up to $\frac{7}{8}$ " diameter. Made extra heavy, with Universal Joint and Connection Socket. Maximum length, 19 1/4". Parker rustproof finish.

No. 45 Set contains 1 Speed Brace Handle, No. 359, with interchangeable sockets held to handle by ball spring friction; 1 Universal Joint, No. 336; 1 Connection Socket, No. 167—17/32" square socket for use as connection unit; 15 sizes of all steel, indestructible, Heavy Duty Sockets as follows: opening inches, 29/64", 33/64", 37/64", 39/64", 41/64", 49/64", 45/64", 51/64", 53/64", 57/64", 61/64", 63/64", 1-1/64", 1-5/64", 1-7/64".

No. 45 Mossberg "Speed Brace Set," in Chestnut Box. List Price.....\$11.00

WALDEN No. 27 SOCKET WRENCH SET



A complete set including 27 different sized sockets, ratchet wrench, etc., that will handle all bolts and

nuts from $\frac{1}{4}$ " to $\frac{7}{8}$ " bolt size, both S. A. E. and U. S. Std.

Assortment includes the following:

No. 716 12" Ratchet Wrench

No. 1139 9" Extension Bar

No. 1104 Combination T and Offset Wrench

No. 1102 Universal Joint

No. 1178 Brace Socket Wrench

No. 1109 Plug Connector

No. 1110 Socket Connector (2)

16 Hexagon Sockets—7/16, 1/2, 9/16, 19/32, 5/8, 11/16, 3/4, 25/32, 13/16, 7/8, 15/16, 31/32, 1, 1-1/16, 1-1/8, 1 1/4, 1 1/2, 1 3/4, 2, 2 1/4, 2 1/2, 3, 3 1/4, 3 1/2, 4, 4 1/4, 4 1/2, 5, 5 1/4, 5 1/2, 6, 6 1/4, 6 1/2, 7, 7 1/4, 7 1/2, 8, 9, 10, 11, 12.

No. 100 Set—5 Open End Wrenches

Packed in neat hardwood box, 16" x 10" x 2 3/4". Weight, 22 lbs.

No. 27 Walden Socket Wrench Set. List Price, \$22.00

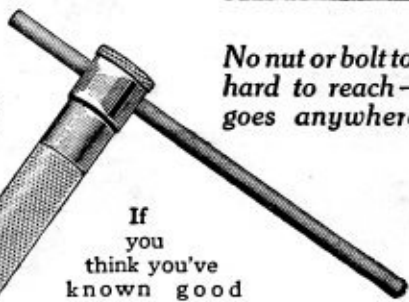
**ALL PRICES AND DISCOUNTS
SUBJECT TO CHANGE
WITHOUT NOTICE!**

**But we Guarantee
THAT EVERY PRICE IS AS LOW
as the Quality of Merchandise
Will Permit**

BILLMONT MASTER WRENCH

"The Wrench that Spins 'em off"

A universal socket wrench driving through a stationary member with a coarsely knurled hand grip. Inner or driving member with its curved revolving nose is propelled by sliding T bar handle at top that can be adjusted backward or forward to allow complete turn on nut without removing wrench.



No nut or bolt too hard to reach—goes anywhere.

If you think you've known good wrenches, wrenches that would do the trick of spinning off the "hard ones" easily and without skinned knuckles you have yet to learn about the Billmont Master Wrench. Its curved revolving nose goes anywhere—everywhere. Slips into the most inaccessible spots on body or motor, grabs hold, and sticks until—off she comes.



Billmont has more capacity for work than any tool you've ever owned. Even spins off Ford 4th connecting rod nut. Plenty of leverage on handle—no chance for hand to slip from knurled hand-grip. The handiest tool of many accomplishments ever devised.

A popular set consists of wrench, 5 hexagon sockets (7-16, 1-2, 9-16, 19-32, 5-8) and 1 adapter so any standard socket may be used. Adapter also removes oil plugs in many fly wheel and differential cases. In wooden case.

No. 1 Set \$10.00

All sockets finely machined, broached and hardened.

BILLMONT SIZE CHART

Hexagon Sockets

Number	Socket Size	U. S. Std. Hex. Bolt	Max. Hex. Cap. Screw (C. & S. Std.)	U. S. Std. Nut (C. & S. Std.)	A. L. A. M.	Metric S. d. Nut Head
12	1/2"	1/2"	1/2"	1/2"	1/2"	12
13	3/4"	3/4"	3/4"	3/4"	3/4"	16
14	1"	1"	1"	1"	1"	20
15	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	24
16	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	28
17	2"	2"	2"	2"	2"	32
18	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"	36
19	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	40
20	3"	3"	3"	3"	3"	45
21	3 1/4"	3 1/4"	3 1/4"	3 1/4"	3 1/4"	50
22	3 3/4"	3 3/4"	3 3/4"	3 3/4"	3 3/4"	55
24	4"	4"	4"	4"	4"	60
25	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	65
26	4 3/4"	4 3/4"	4 3/4"	4 3/4"	4 3/4"	70
28	5"	5"	5"	5"	5"	75
30	5 1/4"	5 1/4"	5 1/4"	5 1/4"	5 1/4"	80
31	5 3/4"	5 3/4"	5 3/4"	5 3/4"	5 3/4"	85

Square Sockets

Number	Socket Size	Sq. Head Set Screw	Sq. Head Cap Screw	Sq. Head U. S. Bolt	Sq. Head Nut
014	1/4"	1/4"	1/4"	1/4"	1/4"
016	3/8"	3/8"	3/8"	3/8"	3/8"
018	1/2"	1/2"	1/2"	1/2"	1/2"
019	5/8"	5/8"	5/8"	5/8"	5/8"
020	3/4"	3/4"	3/4"	3/4"	3/4"
022	7/8"	7/8"	7/8"	7/8"	7/8"
024	1"	1"	1"	1"	1"

Individual Sockets, 40c



No. 65 — Offset Screwdriver 40c

No. 70 — Standard Socket Adapter and Oil Plug Remover 40c

No. 60 — Ford Valve Grinder Attachment 35c



Billmont Socket Set in hardwood case, sockets only—24 sizes. Every owner of Master Wrench should have this set.

No. 300 Set, Price \$11.80

Billmont Master Wrench and Socket Set (includes wrench and 24 sizes of sockets in hardwood case.)

No. 100 Set, Price \$19.50

BILLMONT Socket Cabinet FREE!

No. 350. Socket Cabinet of finely finished hardwood, made for convenience of the hardware or accessory man — given without charge with the following assortment:

— 5 No. 70 Adapters — 5 No. 65 Offset Screwdrivers, and 190 Sockets, assorted as follows:

HEXAGON

10 No. 12 — 3/8 inch
10 No. 13 — 13/32 inch
10 No. 14 — 7/16 inch
10 No. 15 — 15/32 inch
10 No. 16 — 1/2 inch
10 No. 17 — 17/32 inch
10 No. 18 — 9/16 inch
10 No. 19 — 19/32 inch

20 No. 20 — 5/8 inch

8 No. 21 — 21/32 inch
8 No. 22 — 11/16 inch
5 No. 24 — 3/4 inch
5 No. 25 — 25/32 inch
4 No. 26 — 13/16 inch
4 No. 28 — 7/8 inch
4 No. 30 — 15/16 inch
4 No. 31 — 31/32 inch

SQUARE

4 No. 014 — 7/16 inch
4 No. 016 — 1/2 inch
4 No. 018 — 9/16 inch
4 No. 019 — 19/32 inch
4 No. 020 — 5/8 inch
4 No. 022 — 11/16 inch
4 No. 024 — 3/4 inch

No. 350. Complete with Cabinet \$80.00



BILLMONT Junior Wrench

A big husky wrench 11½ inches long of great strength and capacity. Nickel and Parker rust-proof finish.

Similar to Master Wrench excepting nose is straight instead of curved. Sliding T bar handle

permits tremendous pressure and complete turn on nut with great speed. Nickled hand-grip at center gives firm hold while operator revolves inner tube and nose with T bar handle thereby spinning off nut.

Socket nose is so constructed to take 24 sizes in Billmont sockets — giving complete size range with only one wrench. Patent spring lock holds socket in place.

No. 2\$3.00



BILLMONT Long T Socket Holder

Similar in every detail except size (which is 12 inches long) to the short T socket holder. The Billmont principle of few wrenches and a universal nose piece makes possible the carrying of a complete range of tools in a small kit—eliminating necessity of many

wrenches each of a different size. This line and one set of sockets completes any man's outfit and takes up very little space.

No. 490c

BILLMONT Short T Socket Holder



Like other Billmont socket holders, nose is made to take 24 sizes of Billmont sockets, giving varied range of jobs without need of more than 1 wrench. Short T and 24 sockets really makes 24 complete wrenches. The solid bar handle equalizes strain put on wrench giving unusual strength for this type.

Nickel and Parker rust proof finish Size 6 inches long.

No. 385c

BILLMONT WRENCHES

ALL CARS - ALL JOBS

Six socket holders that do the work of 144 wrenches because each holder takes 24 sizes in sockets

Ask the man to show you

Handle Cover TAKE ONE

THE SPECIAL LINE FOR CAR OWNERS

MANUFACTURED BY
Edgar C. Guthard Co.
CHICAGO

BILLMONT Display Board

Merchandise well displayed is half sold. Give the car owner a chance to sell himself while you may be busy otherwise. This display board lithographed in 3 colors on sheet steel and backed and mounted on very finely finished hardwood will increase wrench sales. Comes easel backed and with hanger so its 2x5 feet dimensions take little room but can be seen "a mile away."

Given free, with following assortment:

3 Master Wrench sets.....	\$30.00
3 Junior.....	9.00
10 Short T Socket Holders.....	8.50
10 Long T.....	9.00

10 Offset Socket Holders.....	\$ 7.00
10 Speeder ".....	12.50
10 Rim Brace ".....	15.00
1 Display Board.....	FREE
No. 150 Display Board Outfit.....	\$91.00

BILLMONT Speeder Socket Holder

An unusually popular speeder because following the Billmont principle, nose piece takes all Billmont sizes (24 in all) of sockets. This speeder and one set of Billmont sockets gives you a complete speeder outfit with only one wrench to carry around or take up space.

Constructed of hardened steel, Parkerized and capable of a wide range of jobs.

No. 7\$1.25

BILLMONT Rim Brace Socket Holder

Not only adaptable for rim work but popular with car owners and repairmen, because nose piece takes 24 sizes in Billmont sockets, creating a wrench of many uses and great service. Finished in nickel and Parker rust-proof.

No. 6\$1.50

BILLMONT Offset Socket Holder

Handle designed with upward bend gives unusual clearance permitting better operation and avoiding skinned knuckles. As in other Billmonts universal nose takes 24 sizes in Billmont sockets.

No. 570c

No. 8 Ratchet Wrench, 9 In. \$2.00

BILLMONT Garage Set Think of only needing five wrenches to reach 120 different size nuts or bolts. With a complete set of sockets and this outfit you equip yourself for any old job. Each holder takes 24 Billmont sockets of different sizes. Set consists of following socket holders—Speeder, Rim Brace, Offset, Short T and Long T. No. 200. \$5.20

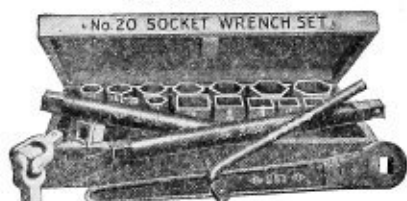
TWENTY-FOUR WRENCHES in ONE

The Billmont universal nose piece used on all socket holders takes 24 sizes, permitting all socket holders to be used with one set of sockets.

MOSSBERG HEAVY DUTY SOCKET

WRENCH SET No. 20

"LARGE SERIES"



A valuable and necessary set of Socket Wrenches for larger jobs where a much stronger leverage is required. By means of an ingenious connection bushing the opening in the sockets may be reduced for smaller nuts. All tools neatly finished in rust-proof finish. Set contains Ratchet Socket Handle, No. 357; 18" long Offset Socket Wrench Handle, No. 324; 10" Extension Tube, No. 349; 18" Extension Tube, No. 349; Universal Joint, No. 337 (for indirect adjustment); Connecting Bushing for small series sockets, No. 338; 15 Heavy Duty Steel Sockets as follows:

LARGE SERIES PRESSED STEEL SOCKETS

— HEXAGON —

Size Opening Hex. Socket	Fits U. S. Std. Bolt Size	Fits S. A. E. Std. Cap Screw Size
29/32"	1/2"	5/8"
1-3/32"	5/8"	3/4"
1-9/32"	3/4"	7/8"
1-15/32"	7/8"	1"
1-21/32"	1"	1 1/8"
1-27/32"	1 1/8"	1 1/4"
2-1/32"	1 1/4"	1 3/8"
2-7/32"	1 3/8"	1 1/2"
2-13/32"	1 1/2"	.....

LARGE SERIES PRESSED STEEL SOCKETS

Size Opening Hex. Socket	Fits U. S. Std. Bolt Size	Fits S. A. E. Std. Cap Screw Size
29/32"	1/2"	7/8"
1-3/32"	5/8"	.....
1-9/32"	3/4"	1 1/4"
1-15/32"	7/8"	.....
1-21/32"	1"	.....
2-1/32"	1 1/8"	.....

No. 20 Socket Wrench Set, packed in Wooden Box.

List Price\$25.00

DOUBLE-END SOCKET WRENCH



For deep and close offset work. One-piece heavy drop forging. An excellent type wrench for use where a greater leverage is required than with the ordinary swivel type socket wrenches. Neat ebony finish.

No.	Size Opening	U. S. S. Hex. Nuts	U. S. S. Hex. Cap Screws	List Price Each
06	13/32"	3/4"	.....	\$ .60
6	1 1/8"	.....	1 1/4"	.60
7	1 1/2"	1 1/8"	1 1/2"	.72
8	1 3/4"	1 1/4"	1 3/8"	.88
9	1 7/8"	1 1/2"	1 1/2"	1.00
10	2"	1 3/4"	1 3/4"	1.08
12	2 1/8"	2"	2"	1.20
11	2 1/4"	2 1/8"	2 1/8"	1.12
12	2 1/2"	2 1/4"	2 1/4"	1.20
13	2 3/4"	2 1/2"	2 1/2"	1.33
14	3"	2 3/4"	2 3/4"	1.33

MOSSBERG 6" "T" HANDLE SOCKET

WRENCHES



Extra strong Wrenches built for the hardest kind of service. Each wrench is case hardened, 6" long over all. Made of 1/2" steel stock and finished in rust-proof black. Packed 6 of a size in a cardboard box.

Wrench No.	Size Hex. Socket Opening	Fits U. S. Std. Nuts & Bolts Size	Fits S. A. E. Head Cap Screw Size	Fits Hex. Head Cap Screw Size
1129	29/64"	.....	1/4"	1/4"
1133	33/64"	1/4"	5/16"	5/16"
1137	37/64"	5/16"	3/8"	3/8"
1139	39/64"	3/8"	.....	.....
1141	41/64"	7/16"	1/2"	1/2"
1145	45/64"	1/2"	5/8"	5/8"
1149	49/64"	5/8"	3/4"	3/4"
1151	51/64"	3/4"	7/8"	7/8"
1153	53/64"	7/8"	1"	1"
1157	57/64"	1"	1 1/8"	1 1/8"
1161	61/64"	1 1/8"	1 1/4"	1 1/4"
1163	63/64"	1 1/4"	1 3/8"	1 3/8"
1165	1-1/64"	1 3/8"	1 1/2"	1 1/2"
1169	1-5/64"	1 1/2"	1 3/4"	1 3/4"
1181	1-17/64"	1 3/4"	2"	2"

Mossberg Heavy Duty 6" "T" Handle Socket Wrenches. List Price, Each.....\$.72

MOSSBERG OFFSET 10" SOLID SOCKET WRENCHES

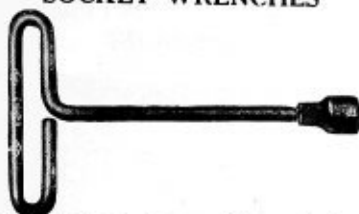


Built of 1/2" steel bar, the sockets being drawn from flat stock. Round outside, but with no more clearance needed than other types, but about twice the strength. Case hardened; length, 10" over all. Finished in rust-proof black. Packed 6 of one size in cardboard carton.

Wrench No.	Size Hex. Socket Opening	Fits U. S. Std. Nuts & Bolts Size	Fits S. A. E. Head Cap Screw Size	Fits Hex. Head Cap Screw Size
1529	29/64"	.....	1/4"	1/4"
1533	33/64"	1/4"	5/16"	5/16"
1537	37/64"	5/16"	3/8"	3/8"
1539	39/64"	3/8"	.....	.....
1541	41/64"	7/16"	1/2"	1/2"
1545	45/64"	1/2"	5/8"	5/8"
1549	49/64"	5/8"	3/4"	3/4"
1551	51/64"	3/4"	7/8"	7/8"
1553	53/64"	7/8"	1"	1"
1557	57/64"	1"	1 1/8"	1 1/8"
1561	61/64"	1 1/8"	1 1/4"	1 1/4"
1563	63/64"	1 1/4"	1 3/8"	1 3/8"
1565	1-1/64"	1 3/8"	1 1/2"	1 1/2"
1569	1-5/64"	1 1/2"	1 3/4"	1 3/4"
1581	1-17/64"	1 3/4"	2"	2"

Mossberg Solid 10" Offset Socket Wrenches. List Price, Each.....\$.56

MOSSBERG 12" "T" HANDLE SOLID SOCKET WRENCHES



All indestructible heavy duty sockets are case hardened.

Construction— $\frac{1}{2}$ " steel bar. Length—12" over all.

Finish—Rust-proof black.

Packing—Six of a size in a cardboard carton.

Wrench No.	Size Hex. Socket Opening	Fits U. S. Std. Nuts & Bolts	Fits S. A. E. Cap Screw	Fits Hex. Head Cap Screw
		Size	Size	Size
1329	29/64"	.....	$\frac{1}{4}$ "	$\frac{1}{4}$ "
1333	33/64"	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{5}{16}$ "
1337	37/64"	.....	$\frac{3}{8}$ "	$\frac{3}{8}$ "
1339	39/64"	$\frac{1}{2}$"	.....	.....
1341	41/64"	.....	$\frac{1}{2}$ "	$\frac{1}{2}$ "
1345	45/64"	$\frac{3}{8}$"	.....	.....
1349	49/64"	.....	$\frac{1}{2}$ "	$\frac{1}{2}$ "
1351	51/64"	$\frac{7}{16}$"	.....	.....
1353	53/64"	.....	$\frac{9}{16}$ "	$\frac{9}{16}$ "
1357	57/64"	$\frac{1}{2}$ "	$\frac{9}{16}$ "	$\frac{5}{8}$ "
1361	61/64"	.....	$\frac{5}{8}$"	.....
1363	63/64"	$\frac{9}{16}$"	.....	.....
1365	1-1/64"	.....	$\frac{1}{2}$ "	$\frac{3}{4}$ "
1369	1-5/64"	$\frac{5}{8}$ "	$\frac{3}{4}$"	.....
1381	1-17/64"	$\frac{3}{4}$ "	$\frac{7}{8}$ "	1"

Mossberg Solid 12" "T" Handle Socket Wrenches.

List Price, Each.....\$.78

MOSSBERG SOLID SPEED BRACE SOCKET WRENCHES



The sockets are drawn from cold rolled strip steel with accurate hexagon openings, but are perfectly round outside. The addition of this extra metal across outside faces of sockets causes these sockets to be veritably indestructible.

All indestructible sockets are case hardened. Top swivel handles are steel-drawn from flat stock.

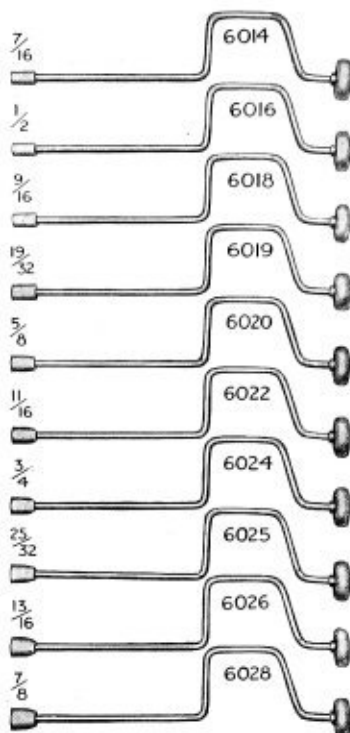
Construction— $\frac{1}{2}$ " steel bar, with bell-shaped steel swivel top handle. Length—19 $\frac{1}{4}$ " long. Finish—Rust-proof black. Packing—6 of a size in cardboard carton. Following is a complete list of Mossberg "All-Steel" Speed Brace Socket Wrenches:

Wrench No.	Size Hex. Socket Opening	Fits U. S. Std. Nuts & Bolts	Fits S. A. E. Cap Screw	Fits Hex. Head Cap Screw
		Size	Size	Size
1729	29/64"	.....	$\frac{1}{4}$ "	$\frac{1}{4}$ "
1733	33/64"	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{5}{16}$ "
1737	37/64"	.....	$\frac{3}{8}$ "	$\frac{3}{8}$ "
1739	39/64"	$\frac{1}{2}$"	.....	.....
1741	41/64"	.....	$\frac{1}{2}$ "	$\frac{1}{2}$ "
1745	45/64"	$\frac{3}{8}$"	.....	.....
1749	49/64"	.....	$\frac{1}{2}$ "	$\frac{1}{2}$ "
1751	51/64"	$\frac{7}{16}$"	.....	.....
1753	53/64"	.....	$\frac{9}{16}$ "	$\frac{9}{16}$ "
1757	57/64"	$\frac{1}{2}$ "	$\frac{9}{16}$ "	$\frac{5}{8}$ "
1761	61/64"	.....	$\frac{5}{8}$"	.....
1763	63/64"	$\frac{9}{16}$"	.....	.....
1765	1-1/64"	.....	$\frac{1}{2}$ "	$\frac{3}{4}$ "
1769	1-5/64"	$\frac{5}{8}$ "	$\frac{3}{4}$"	.....
1781	1-17/64"	$\frac{3}{4}$ "	$\frac{7}{8}$ "	1"

Mossberg Speed Brace Socket Wrenches, all sizes.

List Price, Each.....\$1.00

WALDEN BRACE SOCKET SPEED WRENCHES



WALDEN-WORCESTER
6000 Series

Length over all, 19 $\frac{1}{2}$ ". Shank, 11 $\frac{1}{4}$ ". Made with metal knobs operating on cone bearings, insuring an easy working tool. In ordering specify stock number.

6000 Series Walden Brace Socket Speed Wrenches.

List Price, Each.....\$.80

WALDEN No. 600 BRACE SOCKET SPEED WRENCH SET

Includes one each of ten wrenches illustrated above. Packed in substantial fibre board box. Size 19 $\frac{3}{4}$ " x 7 $\frac{1}{4}$ " x 5 $\frac{1}{4}$ ".

List Price, per Set of 10 Wrenches.....\$8.00

MOSSBERG SMALL SERIES PRESSED STEEL SOCKETS



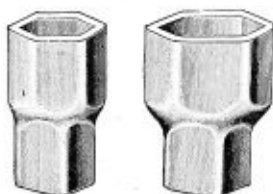
Wrench No.	Size Hex. Socket Opening	Fits Square	
		U. S. Std. Nuts & Bolts	Hex. Head Cap Screw
163	13/32"	.....	$\frac{1}{4}$ "
165	15/32"	.....	$\frac{5}{16}$ "
167	17/32"	$\frac{1}{4}$ "	$\frac{3}{8}$ "
169	19/32"	.....	$\frac{7}{16}$ "
171	21/32"	$\frac{5}{16}$ "	$\frac{1}{2}$ "
173	23/32"	$\frac{3}{8}$ "	$\frac{5}{8}$ "
175	25/32"	.....	$\frac{3}{4}$ "
179	29/32"	$\frac{1}{2}$"	.....
183	1-1/32"	$\frac{5}{8}$"	.....
187	1-5/32"	.....	$\frac{3}{4}$ "
191	1-9/32"	$\frac{3}{4}$ "	1"

List Price, Each.....\$.20

MOSSBERG SMALL SERIES PRESSED STEEL SOCKETS

MOTOR MECHANIC'S WRENCH CABINET SET

Mossberg No. 1000



HEXAGON

Wrench No.	Size Hex. Socket Opening	Fits U. S. Std. Nuts & Bolts Size	Fits S. A. E. Cap Screw Size	Fits Hex. Head Cap Screw Size
113	15/32"	-----	1/4"	1/4"
117	17/32"	1/4"	5/16"	5/16"
119	19/32"	-----	3/8"	3/8"
120	5/8"	1/2"	-----	-----
121	21/32"	-----	1/2"	1/2"
123	23/32"	3/8"	-----	-----
125	25/32"	-----	1/2"	1/2"
126	13/16"	1/2"	-----	-----
127	27/32"	-----	-----	1 1/8"
129	29/32"	1 1/2"	1 1/8"	3/8"
131	31/32"	-----	5/8"	-----
132	1"	1 1/8"	-----	-----
133	1-1/32"	-----	1 1/8"	3/4"
135	1-3/32"	5/8"	3/4"	-----
137	1-5/32"	-----	-----	7/8"
141	1-9/32"	3/4"	7/8"	1"

List Price, Each.....\$ 20

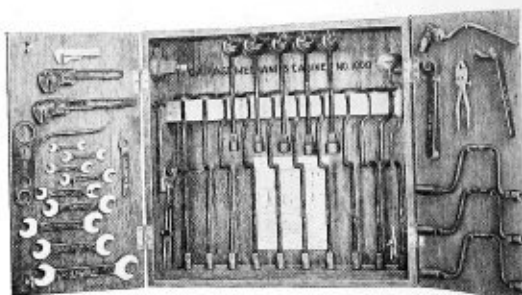
MOSSBERG HEAVY DUTY SOCKETS



Actually have three times the strength of ordinary sockets, as they are drawn from flat stock, and resist strains which would destroy the ordinary socket.

Wrench No.	Sizes of Hex. Sockets	Fits U. S. Std. Nuts and Bolts Size	Fits S. A. E. Standard Screw Size	Hex. Head Cap Screws
1028	29/64"	-----	1/4"	1/4"
1033	33/64"	1/4"	5/16"	5/16"
1037	37/64"	-----	3/8"	3/8"
1039	39/64"	1/2"	-----	-----
1041	41/64"	-----	1/2"	1/2"
1045	45/64"	3/8"	-----	-----
1049	49/64"	-----	1/2"	1/2"
1051	51/64"	1/2"	-----	-----
1053	53/64"	-----	-----	1 1/8"
1057	57/64"	1 1/2"	1 1/8"	3/8"
1061	61/64"	-----	5/8"	-----
1063	63/64"	3/4"	-----	-----
1065	1-1/64"	-----	1 1/8"	3/4"
1069	1-5/64"	5/8"	3/4"	-----
1081	1-17/64"	3/4"	7/8"	1"

Mossberg Heavy Duty Sockets. List Price, Each, \$.34



A magnificent assortment of the finest tools made with a handsome chestnut cabinet to keep them in. This cabinet is fitted with lock and key to prevent theft of tools, a continual source of loss in every garage, and finished in natural wood color. Cabinet is 30" wide, 11" deep, 27" high. Contains the following tools.

Speed Brace Nos.	12" "T" Handle Socket Wrenches	Size Socket Openings
1733	-----	33/64"
1737	1337	37/64"
1739	-----	39/64"
1741	1431	41/64"
1745	1345	45/64"
1749	1349	49/64"
1751	-----	51/64"
1753	-----	53/64"
1757	1357	57/64"
1761	-----	61/64"

Fitting all U. S. Std. nuts and bolts—bolt size, 1/4" to 5/8" inclusive; 5/16" to 3/4" S. A. E. Std. screw sizes.

Double-End Engineers' Wrenches, No.

Double-End Engineers' Wrenches, No.	Size of Openings
220	5/8" x 3/4"
232	1 1/2" x 1 1/8"
234	19/32" x 1 1/2"
244	1 1/2" x 1 1/8"
254	25/32" x 5/8"
267	3/4" x 3/4"
274	31/32" x 7/8"
278	1 1/8" x 1 1/8"
293	1 1/4" x 1 1/8"

No. 74, 4 1/4" Adjustable Wrench.

No. 610, Universal Valve Grinder.

No. 361, Demountable Rim Brace Wrench, for Kelsey Rims.

No. 362, Demountable Rim Brace Wrench, for Firestone Rims.

No. 363, Demountable Rim Brace Wrench, for Baker, etc., Rims.

No. 100, Sterling Plier.

No. 655, Universal Valve Lifter.

SPECIAL WRENCHES FOR FORDS

No. 624, Ratchet Socket Wrench for Connecting Rod.

No. 635, Spark Plug and Cylinder Head Screw Wrench.

No. 637, Flywheel Cap Screw Wrench.

No. 660, Wheel Puller, for Ford and Chevrolet.

No. 630, Triple End Cylinder Head Screw and Rear Axle Housing Nut Wrench.

No. 650, Hub Cap Wrench.

No. 645, Ratchet Reverse and Brake Pedal Tension Spring Wrench.

Motor Mechanics' Cabinet Set, No. 1000, with Cabinet and tools above listed. List Price, \$50.00

MOSSBERG "SMALL SERIES" SOCKET DISPLAY CHEST No. 300



To enable the dealer to increase his business on socket wrenches the Mossberg Company has carefully arranged No. 300 Chest of Drawers to be offered free for as long as he shall utilize it to sell Mossberg wrenches.

This particular assortment of sockets and handles has been carefully made up from a year's record of

sales, and the quantity of each unit is in direct proportion to its demand. Empty kits are included in the assortment for containers of special sets made up from this stock.

No. 300 Chest is a beautifully finished store fixture made of selected chestnut and is 14 1/4" high, 21" wide, 12 1/4" deep, with eight drawers.

No. 300 Assortment includes:

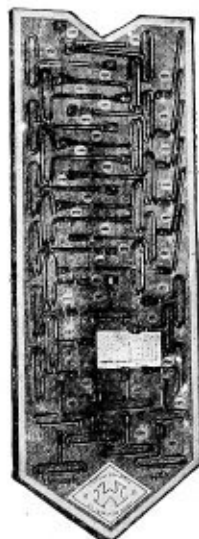
300 Regular Guaranteed Pressed Steel Sockets, Parker Rust-proof, assorted sizes at \$2.40 per doz.	\$60.00
21 Pressed Steel Spark Plug Socket Wrenches assorted, 40¢ each	8.40
4 No. 350 Reverse Ratchet Socket Handles, \$2.50 each	10.00
4 No. 355 Ratchet Handles, \$1.25 each	5.00
4 No. 322 Double-End Offset and Vertical Handles, 35¢ each	1.40
4 No. 340 Take-down T Handles, 60¢ each	2.40
4 No. 336 Universal Joints, 55¢ each	2.20
4 No. 351 Extension Tubes, 60¢ each	2.40
5 Canvas Tool Rolls, circulars, etc., no charge.	

350 Units.

Mossberg No. 300 Chest Complete, with Chest

List Price \$95.00

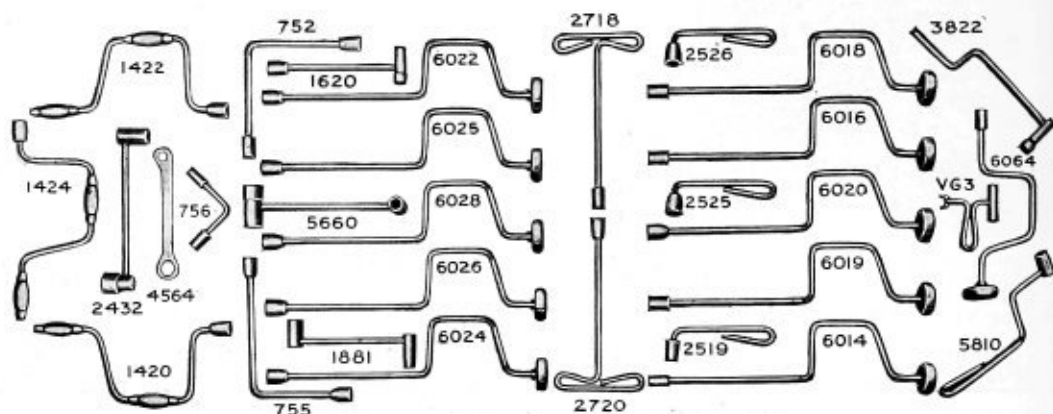
MOSSBERG No. H. "T" HANDLE SOCKET WRENCH DISPLAY BOARD WITH 162 WRENCHES



The easiest way to sell Wrenches is invariably to show them where the customer can make his own choice and handle the tools themselves. No. H Display Board is exactly for this purpose. Measures 24" x 70" in size, and is constructed of the finest chestnut with three coats of varnish, each wrench being tagged with its number, size and price. Each pair of hooks on the Board holds two Wrenches and the assortment is chosen from the most popular selling numbers. More than two wrenches are furnished in the most popular sizes, thus giving a small reserve stock. Put an H Display Board in your store and watch the Wrenches sell! Contains the following tools:

6" T Handle Socket Wrench No.	Quan- tity in Set	12" T Handle Socket Wrench No.	Quan- tity in Set	10" Offset Socket Wrench No.	Quan- tity in Set	Size Hex. Socket Opening	Fits U. S. Std. Nuts and Bolts Size	Fits S. A. E. Cap Screw Size	Fits. Hex. Head Cap Screw Size
1129	3	1329	4	1533	4	29/64"	-----	1/4"	1/4"
1133	5	1333	6	1537	4	33/64"	1/4"	1/8"	1/8"
1137	5	1337	6	1539	4	37/64"	-----	3/8"	3/8"
1139	5	1339	6	1541	6	39/64"	1/8"	-----	-----
1141	8	1341	8	1545	4	41/64"	3/8"	1/8"	1/8"
1145	5	1345	6	1549	4	45/64"	-----	1/2"	1/2"
1149	5	1351	6	-----	-----	49/64"	1/2"	-----	-----
1151	3	1351	4	-----	-----	51/64"	1/2"	-----	-----
1153	3	1353	4	-----	-----	53/64"	1/2"	-----	-----
1157	5	1357	6	1557	4	57/64"	1/2"	9/16"	9/16"
1161	3	1361	4	1561	2	61/64"	-----	5/8"	-----
1163	3	1363	3	-----	-----	63/64"	5/8"	-----	-----
1165	3	1365	3	-----	-----	1-1/64"	-----	1 1/8"	3/4"
1169	2	1569	2	-----	-----	1 15/16"	5/8"	3/4"	-----
1181	2	1381	2	-----	-----	1-17/64"	3/4"	7/8"	1"
"H" Display Board with 162 Wrenches, above listed.						List Price	\$128.00		

GARAGE SERVICE WRENCHES



No. 30 GARAGE SERVICE SET

30 TOOLS, \$22.00

A wrench combination perfectly adapted for work on any motor car, with which time and labor cost to the customer may be economized, and the productiveness of the shop and its facilities largely increased.

These are special tools, designed after careful study of garage service, each serving a specific purpose and having qualities necessary for thoroughly good work.

These 30 wrenches, some with two sockets, are equivalent to 39 different sizes and types, as follows:

Offset wrenches	13
Speed wrenches	10
L-wrenches	6
Special wrenches	5
Demountable rim wrenches	3
Tee-handle wrenches	2
Total	39

The combination was made to fit all popular makes of cars—to work wherever particular type wrenches are necessary. Every condition that makes for economy and time saving has been anticipated, and utility provided for. With the No. 30 Garage Service Set you will have every wrench you will need. Your equipment will be standardized. The quality of work insured.

30 Set An assortment of thirty wrenches selected from standard and special numbers to make a complete assortment most desirable for general repair work.



Packed in compact wooden case 20-1/2" x 7" x 7" and weighs 41 lbs. ready for shipment. Boxes are substantial and should be received by the distributor in proper condition for re-shipment without re-packing.

30 Code BRADLEY Wt. 41.00 lbs. Each 22.00

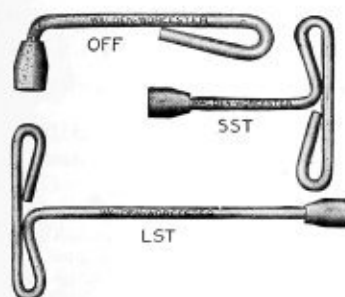


The list of adaptations on opposite page is by no means complete but is suggestive of the unlimited possibilities of this set.

Following is list of tools:

Stock No.	Socket Sizes	Price
1 1620	5/8", 1/2"	\$.65
1 5810	5/8"	.50
1 5660	7/8", 15/16", 11/16"	1.10
1 2718	9/16"	.55
1 2720	5/8"	.55
1 3822	11/16"	.60
1 6064	1/2"	.70
1 VG-3	No socket	.50
1 6014	7/16"	.80
1 6016	1/2"	.80
1 6018	9/16"	.80
1 6019	19/32"	.80
1 6020	5/8"	.80
1 6022	11/16"	.80
1 6024	3/4"	.80
1 6025	25/32"	.80
1 6026	13/16"	.80
1 6028	7/8"	.80
1 4564	11/16", 15/16"	1.20
1 2432	3/4", 1"	.95
1 2519	19/32"	.45
1 2525	25/32"	.45
1 2526	13/16"	.45
1 756	1/2", 7/16"	.60
1 755	5/8", 3/4"	.65
1 752	9/16", 11/16"	.65
1 1420	5/8"	1.00
1 1422	11/16"	1.00
1 1424	3/4"	1.00
1 1881	9/16", 9/16" sq.	1.00

Please use our stock numbers on your orders

TEE AND OFFSET HANDLE
SOCKET WRENCHES

SIZE	OFF	SST	LST
$\frac{1}{16}$	2514	2614	2714
$\frac{1}{8}$	2516	2616	2716
$\frac{9}{16}$	2518	2618	2718
$\frac{19}{32}$	2519	2619	2719
$\frac{5}{8}$	2520	2620	2720
$\frac{11}{16}$	2522	2622	2722
$\frac{3}{4}$	2524	2624	2724
$\frac{25}{32}$	2525	2625	2725
$\frac{13}{16}$	2526	2626	2726
$\frac{7}{8}$	2528	2628	2728

Wire handle construction and machine turned sockets make it possible to produce an equally well made and serviceable tool at much less cost than usual drop forged wrenches. Sockets are steel, machine turned from solid bar, and broached accurately to size. Wire handles are proper size and class of material to guarantee service. Sockets are so fastened to the wire they will not turn or loosen.

2500 SERIES Offset socket wrenches. Handles 7", 10 sizes as listed below. Code and weights see index.

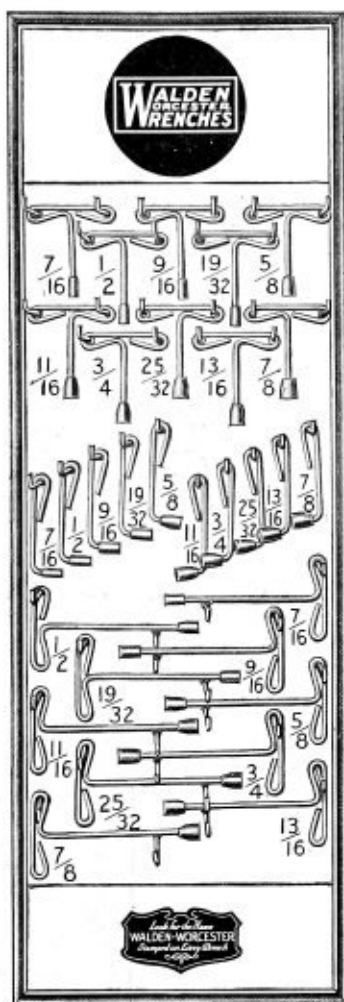
2500 Series ALL SIZES Each **.45**

2600 SERIES Handle Wrenches. Short Shank Tee Handle 6". Shank 6", 10 sizes as listed below. Code and weights see index.

2600 Series ALL SIZES Each **.50**

2700 SERIES Long Shank Tee Handle Wrenches. Handle 6". Shank 12", 10 sizes as listed below. Code and weights see index.

2700 Series ALL SIZES Each **.55**

No. 180
DISPLAY AND STOCK SET

Three types—ten sizes of each type. One price for all sizes. Five wrenches of each size and type—a total of one hundred and fifty wrenches.

This free display board is a great salesman. Sizes of each wrench are plainly marked on the board and on the wrench.

Every Mechanic who uses wrenches has need for one or more of these tools and this attractive display in your store will make the sales.

The face of the board is covered with sheet metal which is handsomely lithographed in black and goldenrod: a fine setting for the finished wrenches. Walden Worcester Wire Handle Socket Wrenches are recognized standards for service.

TEN SIZES—HEXAGONAL—
SOCKETS

50 Offset Wrenches	.45	\$22.50
50 S. S. Tee Wrenches	.50	25.00
50 L. S. Tee Wrenches	.55	27.50
150 Wrenches	Total	\$75.00

Board and Hooks (crated) 60 lbs.
Wrenches (boxed for shipment) 170 lbs.

Wrenches (net weight) 147 lbs.
Size of Board 6 ft. x 2 ft.

150 Wrenches
Complete with Display Board

180 Code CUSHING Each **75.00**

UNIVERSAL JOINT TEE HANDLE WRENCHES



1000 SERIES Tee Flex Universal joints and sockets have been used in combination with wrenches and are now complete in one solid tool. Will reach nuts otherwise inaccessible.

1016 - $\frac{1}{2}$ Code HOWARD WL 1.03 lbs. Each **2.00**

1018 - $\frac{9}{16}$ Code HOBSON WL 1.16 lbs. Each **2.00**

1020 - $\frac{5}{8}$ Code HOOSAC WL 1.19 lbs. Each **2.00**

1022 - $\frac{11}{16}$ Code HORTON WL 1.28 lbs. Each **2.00**

1024 - $\frac{3}{4}$ Code HOOKER WL 1.34 lbs. Each **2.00**

Please use our stock numbers on your orders

WRENCH DISPLAY BOARD ASSORTMENT

MOSSBERG No. "K"



A handsomely finished Board, size 15" x 12", equipped with steel hooks for holding Wrenches, and easel back for display purposes on the store counter. Thirty Wrenches are included with this Board, consisting of the best selling numbers of Mossberg Monkey Wrenches.

ASSORTMENT INCLUDES

- | | |
|---|---|
| 4 No. 1, 5" N. P. Steel Monkey Wrenches. List Price, Each \$.65 | 2 No. 74, 4 1/2" Mottled Bicycle Wrenches. List Price, Each \$.80 |
| 3 No. 2, 6 1/2" N. P. Steel Monkey Wrenches. List Price, Each .95 | 2 No. 76, 6" N. P. Telescope Wrenches. List Price, Each 1.40 |
| 2 No. 15, 6" N. P. Bicycle Wrenches. List Price, Each .62 | 4 No. K-7, 7" Tire Handle Steel Monkey Wrenches. List Price, Each .55 |
| 4 No. 74, 4 1/2" N. P. Bicycle Wrenches. List Price, Each 1.00 | 3 No. K-9, 9" Tire Handle Steel Monkey Wrench. List Price, Each 1.15 |
| 3 No. 1 Jr., 3" N. P. Pocket Wrenches. List Price, Each 1.40 | |

No. "K" Wrench Display Board Complete, with 30 Wrenches. List Price.....\$30.00

SPEED BRACE WRENCH DISPLAY BOARD ASSORTMENT

Mossberg No. 1700

Consists of a handsome 5 ft. 10" high by 2 ft. wide Display Board, with metal hooks for holding each size wrench. Includes 75 Speed Brace Socket Wrenches, fitting all size U. S. Std. nuts and bolts from 1/4" to 3/4" bolt size; and all S. A. E. Std. screw sizes from 1/4" to 7/8" bolt size. Assortment includes a larger quantity of the best selling sizes and a smaller quantity of the ones which do not sell quite so quickly. As the Assortment includes more than two wrenches of some sizes, a reserve stock is always on hand, which may be put on the Display Board as fast as the Wrenches are sold.

No. 600 SALESMAN MOSSBERG TOOLS

"Almost Every Tool Ever Used on a Ford"

This is without a doubt the best Ford Display Board for selling tools for Fords ever put on the market. Very handsome in appearance with rack or hook, which shows each item attractively, and yet allows sufficient space to keep your stock always complete. Display Board is 24" x 70" in size, finished in natural chestnut, with three coats of varnish. Contains the following tools especially adapted to Ford cars:

- | | |
|--|--|
| 8 No. 623 Special Wrenches for Connecting Rods. | |
| 4 No. 624 Reversible Ratchet Wrenches for Connecting Rods. | |
| 8 No. 630 Triple End Wrenches for Cylinder Head Screw and Rear Axle Housing Bolts. | |
| 2 No. 631 Reversible Ratchet Wrenches for Cylinder Head Screws and Rear Axle Bolts. | |
| 8 No. 635 Wrenches for Spark Plug and Cylinder Head Screws. | |
| 6 No. 637 Flywheel Cap Screw Wrenches. | |
| 6 No. 645 Ratchet Wrenches for Reverse and Brake Pedal Tension Springs. | |
| 6 No. 650 Hub Cap Wrenches. | |
| 6 No. 1637 Double-End Socket Wrenches, 17/64" and 39/64". | |
| 6 No. 613 3/8" Speed Brace and Socket Wrench. | |
| 6 No. 611 3/8" Speed Brace and Socket Wrench. | |
| 6 No. 612 1/2" Speed Brace and Socket Wrench. | |
| No. 600 Salesman Display Board with 76 Wrenches, fitting Ford cars. List Price.....\$78.00 | |



No. 1700 Socket Wrench Display Board Complete, with 75 Wrenches. List Price.....\$89.00

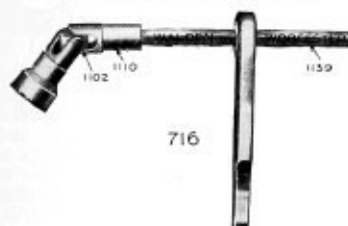
COMBINATION WRENCH PARTS

DEMONSTRATIONS



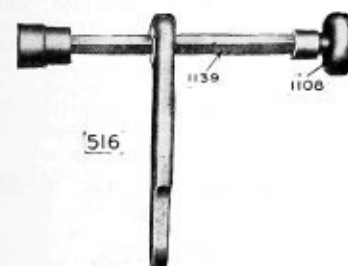
ILLUSTRATING the use of Sockets Directly with Ratchet Wrench.

The ball frictions on plug connector (1109) holds the socket to the wrench using it in any position.



ILLUSTRATING Combination use of Ratchet Wrench (716), the extension bar (1139), universal joint (1102) and socket.

One of the many different combinations which can be made by using combination parts. The most inaccessible nuts and bolts can be reached in this manner. The wrench is adjustable the full length of the bar. An extra bar (1135) can be coupled for distance work. The same parts could be used with Nos. 1105, 1178 instead of the ratchet wrench. This also illustrates the use of socket connector (1110), joining extension bar (1139) and universal joint (1102).

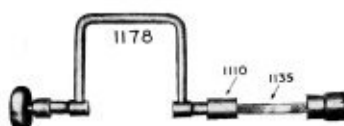


ILLUSTRATING the Combination use of Ratchet Wrench (516 or 716) extension bar (1135) or (1139), brace top (1108) and Socket.

This combination in vertical position will be found particularly advantageous for overhead work by millwrights on transmission and construction work, etc. In a horizontal position for various uses a fine combination for use on heavy truck tires. The use of brace top (1108) makes it easy to hold the combination in working position.

DEMONSTRATIONS

CONTINUED



ILLUSTRATING combination use of Brace (1107) Ball Top (1108) (these two parts making our stock No. 1178) Socket Connector (1110) Extension Bar (1135) and socket. This demonstrates an extension Brace Socket Wrench and any of the combination parts may be used with Brace (1107 or 1178).



SOCKET PRICE LIST.

SQUARES

No.	Size	List
112-118	3/8", 9/16"	\$3.30
120-122	5/8", 11/16"	.40
124-140	3/4", 1-1/4"	.60

HEXAGONAL

No.	Size	List
214-222	7/16", 11/16"	.30
224-230	3/4", 15/16"	.40
231-240	31/32", 1-1/4"	.50



STEEL OPEN END WRENCHES

Thin stamped wrenches are most useful in many places. Special steel used to give strength and wearing qualities. Sizes are shown on illustration.

(Sold in sets only.)

100 Set Code CLINTON WL 1.38 lbs. Each 1.50

SOCKETS



SOCKETS—Introducing an entirely new line-up on sockets. Sockets are steel, machine made from the solid bar. Broaching depth is the thickness of the nut to be fitted, and broached 1/64" over the size of the nut. Sockets are counter drilled, making extreme bolt size depth of socket 1/2" more than the thickness of the nut. The outside diameter of the socket size and taper have been designed to insure strength and service conditions. The broached end is countersunk slightly to relieve the square edges and to allow more rapid placing of socket on bolt head.



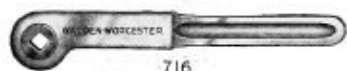
SOCKET STOCK NUMBERS		SIZES SCREW-BOLT-NUTS			
		SAE. NUTS CAP SCREWS	U.S. STAN NUTS	U.S. CAP SCREWS	U.S. BOLT HEADS STAN. UNFINISHED
SQUARE	HEXAGONAL	SOCKET SIZES			
114	214	7/16	1/4	1/4	1/4
116	216	1/2	5/16	5/16	5/16
118	218	9/16	3/8	3/8	3/8
	219	19/32	5/16	5/16	5/16
120	220	5/8	7/16	7/16	7/16
122	222	11/16	3/8	3/8	3/8
124	224	3/4	1/2	1/2	1/2
	225	25/32	7/16	7/16	7/16
	226	13/16	9/16	9/16	9/16
128	228	7/8	1/2	5/8	1/2
	230	15/16	5/8	5/8	5/8
	231	31/32	9/16	9/16	9/16
132	232	1	11/16	3/4	3/4
	234	1 1/16	3/4	5/8	5/8
136	236	1 1/8	7/8	7/8	7/8
140	240	1 1/4	7/8	3/4	3/4

COMBINATION WRENCH PARTS

RATCHET WRENCHES



516-716 Ratchet Wrenches. Lengths 9" and 12", square opening 1/2". Special type of pawl (straight line action) reduces the tension in backing up the wrench, also gives a maximum strength and positive smooth action. The ratchet action is reversed by turning the wrench over. This eliminates complicated reversing mechanism by which strength and positive action of the wrench would be reduced. There are only three working parts, which are made of high grade steel and properly tempered.



Length 12 inches; 1-2" sq. opening.

716 Code GOSHEN Wt. 2.00 lbs. Each **3.00**



Length 9 inches; 1-2" sq. opening

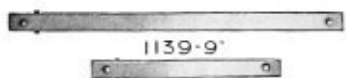
516 Code ENFIELD Wt. 1.56 lbs. Each **2.50**



1102

1102 Universal Joints are solid steel full machined finish. Used in combination with ratchet wrench, extension bars and sockets, working successfully at an angle of 45 degrees.

1102 Code HORNELL Wt. .55 lbs. Each **1.50**



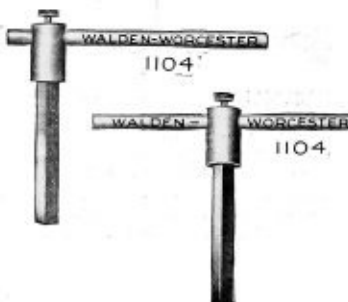
1139-9"

1135-5"

1135-1139 Extension Bars also Shanks for Combination Tee and Offset Handle (1105). Bars have ball friction on each end to hold sockets and other parts in engagement.

1135 Code HURDLE Wt. .34 lbs. Each **.40**

1139 Code HUNTDAL Wt. .63 lb. Each **.50**

COMBINATION
TEE AND OFFSET WRENCH

1104 Combination Tee and Offset Handle Wrench with extension (1135). The knurled set screw allows for use of the handle in any position. The shank or extension bar (1135) is removable. The ball friction on both ends to couple combination parts or sockets.

1104 Code HOWELL Wt. 1.03 lbs. Each **.90**



1105

1105 Combination Tee and Offset Handle. This number covers the handle only as illustrated. If complete tool is wanted, order No. 1104.

1105 Code HOLCOMB Wt. .94 lbs. Each **.50**



1109

1109 Plug Connector. Square bar connector, with ball frictions on each end for coupling combination parts.

1109 Code HUBERT Wt. .12 lbs. Each **.30**



1110

1110 Socket Connector. Round socket with 1/2" square hole for coupling combination parts.

1110 Code HUNTLEY Wt. .13 lbs. Each **.30**

BRACE SOCKET WRENCH



1107 Brace Wrench. Length over all 9-3/4", sweep 10". For use with various sockets and combination parts. Ends of brace are provided with ball friction to hold parts in engagement. May be used also as a double socket brace. If complete brace with handle is wanted order No. 1178.

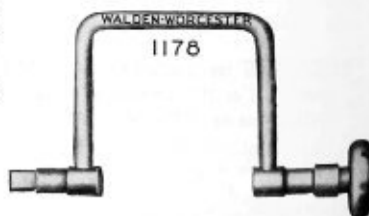
1107 Code HUNT Wt. 1.31 lbs. Each **1.00**



1108

1108 Brace Top or Handle. A pressed steel handle, working on cone bearing and provided with socket end to fit brace wrench and various combination parts. Valuable auxiliary, with extension bar, ratchet wrench, and socket, on overhead work—millwrights particularly will appreciate this attachment and combination.

1108 Code HURLEY Wt. .38 lbs. Each **.50**



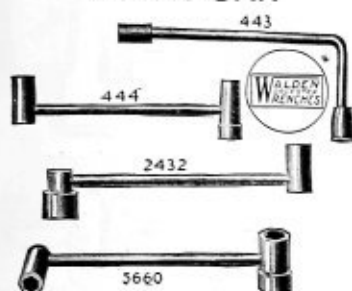
1178

1178 Brace Wrench with Top Handle. When ordering complete tool please use this number—1178.

1178 Code HURON Wt. 1.69 lbs. Each **1.50**

INDIVIDUAL CAR WRENCH SETS

BUICK CAR



No. 44 Set These four wrenches have been designed to cover Buick Models and because of their efficiency in saving time and giving service they have been approved by Buick service men.

44 Set Code CANTON WL 4.80 lbs. Each 3.45

444 Socket sizes 1/2", 9/16" and 5/8" hex. Length over all 9". Will fit the following:
Battery connections
Connecting rods
Cover for timing gears
Differential housing, front
Differential housing, rear cover
Exhaust manifold to cylinder block
Fly wheel housing
Generator support
Head lamp brackets
Intake manifold to cylinder block
Muffler support, front
Rear spring perch to housing
Steering gear case cover
Tappett saddle straps
Tie rod clevis
Tire carrier to frame
Transmission cover
Universal joints
Valve brackets
Water cylinder inlet
Water cylinder outlet
Water pump support

444 Code DUDLEY WL 1.06 lbs. Each .75

2432 Socket sizes, 1" hex and 3/4" hex. Length over all 11-1/4". Will fit the following:
Cylinder to base
Fender to frame
Main bearings
Rear spring pivot
Spindle pivot
Steering gear case support
Spring clips, front axle
Tie rod
Torque rod, front
Torque rod, rear

2432 Code LINWOOD WL 1.43 lbs. Each .95

BUICK CAR

CONTINUED

5660 Socket sizes, 11/16", 7/8" and 15/16" hex. Length over all 10-1/2". Will fit the following:

Front wheel hub flange
Motor support, rear
Muffler support, rear
Rear wheel to brake drum
Rear wheel hub flange
Spindle pivot nut
Spring shackle, front

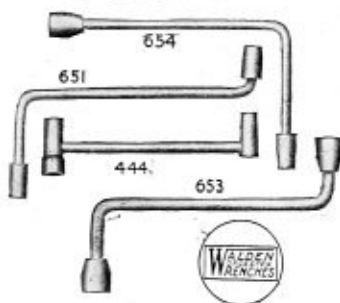
5660 Code WARWICK WL 1.56 lbs. Each 1.10

443 Socket sizes, 5/8" hex and 1/2" hex. Length over all, 9-1/2" by 4-1/2". Will fit the following:

Crank case
Fan adjustment
Radiator support
Steering gear case cover

443 Code DOVER WL .81 lbs. Each .65

DODGE CAR



No. 65 Set These wrenches have been designed specially for use on Dodge Cars, and have been approved by Dodge service men.

A most efficient set of real service wrenches.

65 Set Code CHARLTON WL 3.90 lbs. Each 2.75

651 Socket sizes, 7/16" hex and 9/16" hex. Length over all 10". Will fit the following:

Differential housing, rear
Drag link
Exhaust manifold to cylinder block
Gear case cover
Motor support, front
Muffler support
Master gear
Steering shaft coupling
Tie rod
Water cylinder inlet

651 Code FALMOUTH WL .88 lbs. Each .65

DODGE CAR

CONTINUED

654 Socket sizes, 1/2" hex and 11/16" hex. Length over all 10" by 6". Will fit the following:

Cover for timing gears
Cylinder head
Fly wheel housing
Intake manifold to cylinder block
Oil pan
Transmission cover

654 Code FRANKLIN WL 1.06 lbs. Each .65

444 Socket sizes, 1/2" hex, 9/16" hex and 5/8" hex. Length over all 9". Will fit the following:

Cover for timing gears
Drag link
Exhaust manifold to cylinder block
Fly wheel housing
Head lamp brackets
Intake manifold to cylinder block
Master gear
Muffler support
Steering gear case cover
Steering gear case support
Tie rod
Tie rod clevis
Transmission cover
Universal joint
Water cylinder inlet

444 Code DUDLEY WL 1.06 lbs. Each .75

653 Socket sizes, 7/8" hex and 3/4" hex. Length over all 11". Will fit the following:

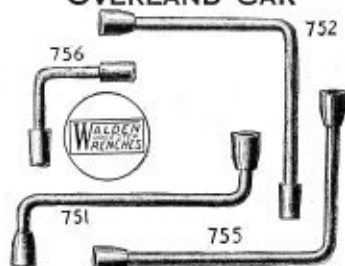
Connecting rods
Front wheel hub flange
Gear worm wheel nut
Main bearings
Motor support, rear
Spring clips, front axle
Spring shackles, front
Tie rod clevis

653 Code FENWAY WL 1.18 lbs. Each .70



INDIVIDUAL CAR WRENCH SETS

OVERLAND CAR



No. 75 Set These wrenches specially designed to cover in general way all Overland models except the new model No. 4 (which is covered by new set No. 76). These tools have been proven out by three years test.

75 Set Code CHESLSEA WL 3.94 lbs. Each 2.55

751 Socket sizes, 5/8" hex and 25/32" hex. Length over all 11-3/4". Will fit the following:
Cylinder head
Differential housing front
Spring clips, front axle
Spring perch
Tie rod clevis

751 Code GRAFTON WL 1.06 lbs. Each .65

752 Socket sizes 9/16" hex and 11/16" hex. Length over all 8" by 8". Will fit the following:
Body to frame
Connecting rods
Exhaust manifold to cylinder block
Generator support
Main bearings

752 Code HADLEY WL 1.06 lbs. Each .65

755 Socket sizes, 5/8" hex and 3/4" hex. Length over all 10" by 7". Will fit the following:
Differential housing, front
Fan adjustment
Head lamp brackets
Motor support, rear
Radiator support
Rear wheel hub flange
Spring perch
Spring shackles, front
Steering gear case support
Tie rod clevis
Transmission support

755 Code HATFIELD WL 1.12 lbs. Each .65

756 Socket sizes, 1/2" hex and 7/16" hex. Length over all 4" by 4". Will fit the following:
Cover for timing gears
Muffler
Muffler support
Oil pan
Oil pump
Transmission cover

756 Code HEATH WL .50 lbs. Each .60

OVERLAND CARS

MODEL NO. 4—76 SET

OTHER MODELS—75 SET

No. 76 Set This particular selection of wrenches is necessary, for this new model, but our No. 75 Set is right for all other Overland cars. Overland owners and service men know the value of these special socket wrench sets.

76 Set Code CHESHIRE WL 4.84 lbs. Each 3.50

5660 Socket sizes, 15/16" hex, 7/8" hex and 11/16" hex. Length over all 10-1/2". Will fit the following:

Brake support
Exhaust manifold to cylinder block
Front spindle pivot
Front wheel to hub flange
Motor support, front
Motor support, rear
Rear hub nut
Rear wheel to brake drum
Rear wheel hub flange
Spring clips, front
Spring clips, rear
Spring shackles, rear
Spring bracket, rear

5660 Code WARWICK WL 1.56 lbs. Each 1.10

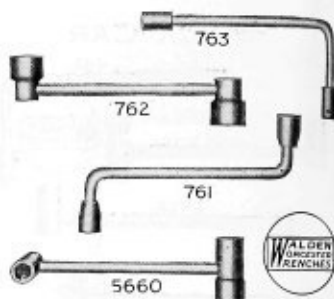
761 Socket sizes, 3/4" hex and 5/8" hex. Length over all 10-1/2". Will fit the following:

Cylinder head
Demountable rims
Differential housing, front
Gear worm wheel nut
Main bearings
Spring shackles, front
Tie rod and ball
Tie rod clevis

761 Code HELOT WL 1.03 lbs. Each .65

762 Socket sizes, 1-1/16" hex and 1" hex. Length over all 10-3/4". Will fit the following:
Differential housing front
Oil plug
Oil drain plug
Spring bracket, front
Steering arm

762 Code HELOM WL 1.56 lbs. Each 1.10



763 Socket sizes, 1/2" hex and 9/16" hex. Length over all 9-1/2" by 4-1/4". Will fit the following:

Body to frame
Clutch plate
Connecting rods
Cover for timing gears
Differential split
Exhaust pipe flange
Fan adjustment
Fly wheel to crank shaft
Fly wheel housing
Generator support
Head lamp brackets
Muffler
Muffler support
Oil pan
Pedals
Radiator support
Steering gear case cover
Steering gear case support
Transmission cover
Universal joints
Water cylinder inlet
Wrist pin

763 Code HELOG WL .69 lbs. Each .65

INDIVIDUAL CAR SETS

FOR

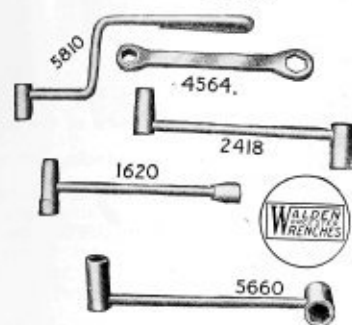
OWNERS

GARAGES

SERVICE
STATIONS

INDIVIDUAL CAR WRENCH SETS

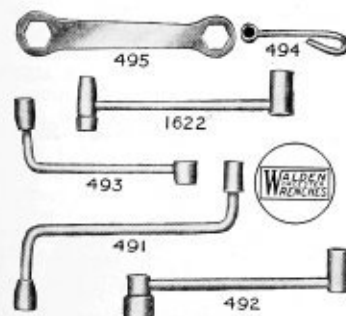
FORD CAR



No. 57 Set This set of five tools is all that is needed by the average Ford owner for repairing, and are fully illustrated and described on accompanying pages.

57 Set Code CARLISLE Wt. 5.22 lbs. Each 4.20

MAXWELL CAR



No. 49 Set A complete set of wrenches covering important nuts and bolts on Maxwell car. Socket wrenches are always time savers.

49 Set Code CARVER Wt. 5.14 lbs. Each 4.15

493 Socket sizes, 5/8" hex and 3/4" hex. Length over all 8-1/4". Will fit the following:
Cylinder head
Fan adjustment
Fly wheel to crank shaft
Head lamp brackets
Motor support, front
Muffler
Pinion housing
Radiator support
Running board bracket
Spring clips, front axle
Spring clips, rear axle
Tie rod clevis
Universal joints

493 Code DURHAM Wt. .73 lbs. Each .65

MAXWELL CAR CONTINUED

491 Socket sizes, 9/16" hex and 3/4" hex. Length over all 10-1/2". Will fit the following:
Cam shaft bearing
Clutch housing
Connecting rod bearings
Differential front bearing lock nut
Differential split
Exhaust manifold to cylinder block
Main bearings
Spindle pivot nut
Spring shackles, rear
Steering arm clamp
Tie rod and ball
Tie rod clevis
Transmission cover
Wrist pin

491 Code DUBLIN Wt. 1.06 lbs. Each .65

492 Socket sizes, 11/16" hex and 15/16" hex. Length over all 10". Will fit the following:
Cover for timing gears
Front hub nut
Front of rear spring shackles
Front wheel hub flange
Steering arm
Tire carrier to frame
Universal joints

492 Code DUNDEE Wt. 1.28 lbs. Each .90

494 Socket sizes, 1/2" hex. Length over all 5-1/8". Will fit the following:

Carburetor to intake manifold
Intake manifold to cylinder block

494 Code DUNSTABLE Wt. .25 lbs. Each .40

495 This is a flat (1/4" thick) box type socket wrench. Socket sizes, 1-1/4" hex and 1-1/8" hex. Length over all 10". Will fit the following:

Rear hub nut
Steering gear case support
Steering gear worm nut

495 Code DUNKIRK Wt. .76 lbs. Each .75

1622 Socket sizes, 1/2" hex, 5/8" hex and 9/16" square. Length over all 9". Will fit the following:

Body to frame
Fender to frame
Fly wheel housing
Muffler support
Oil pan
Pedals
Steering gear case cover
Steering shaft coupling
Water cylinder inlet

1622 Code LAWRENCE Wt. 1.06 lbs. Each .80

CHEVROLET CAR

No. 39 Set These five wrenches cover the essential parts on Chevrolet cars, have been designed for real service and will be popular with both garage men and owners.

39 Set Code BRIMFIELD Wt. 5.05 lbs. Each 4.35

CHEVROLET CAR CONTINUED



391 Socket sizes, 5/8" and 1/2" hex. Length over all 8". Will fit the following:

Front wheel hub flange
Motor support, front
Motor support, rear
Generator support
Steering lever
Tie rod
Water cylinder inlet

391 Code DANA Wt. .75 lbs. Each .65

392 Socket sizes, 7/8" hex and 13/16" hex. Length over all 9-1/4". Will fit the following:

Spring clips, front axle
Spring clips, rear axle

392 Code DANVERS Wt. 1.22 lbs. Each .90

393 Socket sizes, 15/16" hex, 1-1/16" hex, 25/32" hex and 3/4" hex. Length over all 10-1/2". Will fit the following:

Front hub nut
Rear hub nut
Spring shackles, front
Spring shackles, rear
Steering arm
Transmission support

393 Code DARWIN Wt. 2.19 lbs. Each 1.50

394 Socket sizes, 3/4" hex and 7/8" hex. Length over all 8" by 8". Will fit the following:

Cylinder head
Demountable rims
Differential housing, front
Main bearings
Spindle pivot
Tie rod clevis

394 Code DAWSON Wt. 1.19 lbs. Each .70

395 Socket sizes, 1/2" hex and 9/16" hex. Length over all 4" by 4". Will fit the following:

Carburetor to intake manifold
Connecting rods
Differential housing split
Exhaust manifold to cylinder block
Fender to frame
Intake manifold to cylinder block
Muffler support
Radiator support
Starter

Steering gear case support
Transmission cover
Universal joints

395 Code DANUBE Wt. .50 lbs. Each .60

WRENCHES FOR FORDS

RAY SOCKET WRENCH SET

No. 11-A
FORD SET

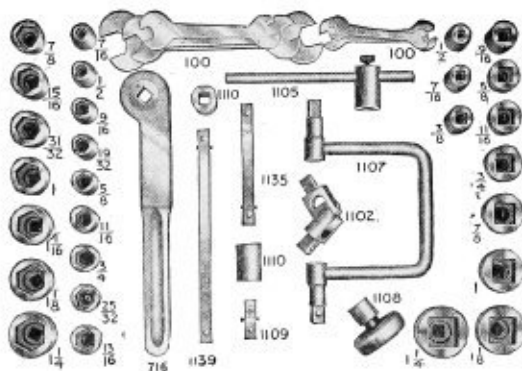
A complete Socket Set, particularly adapted to Ford cars. Set is packed in neat enameled steel case. Contains the following:

- 1 Oval Socket for Ford Main Bearing Bolts
- 1 Nickel Reversible Ratchet Handle
- 1 Double Blade Screw Driver Bit
- 1 Long Extension
- 1 Short Extension
- 1 Universal Joint
- 1 Pressed Steel Spark Plug Socket, 29/32" x 4" long
- 8 Hexagon Steel Sockets with openings 17/32, 19/32, 21/32, 23/32, 25/32, 29/32, 31/32, fitting U. S. Std. hexagon nuts and bolts from 1/4" to 5/8", and A. L. A. M. Std. hexagon nuts and screws from 5/16" to 5/8"; also 2 square sockets with 15/32" and 19/32" openings.

No. 11-A Ray Socket Wrench Set. List Price.....\$7.50

WALDEN No. 8 COMBINATION SOCKET WRENCH SET

For Fords



Includes eight sockets, ratchet wrench, with extension bar and universal joint, etc. Will handle practically all nuts and bolts on Ford cars.

Assortment includes the following:

- No. 516 9" Ratchet Wrench
- No. 1139 9" Extension Bar
- No. 1102 Universal Joint
- 7 Sockets—Hexagonal, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8, 15/16
- 1 Socket—Square, 9/16

Assortment particularly selected to fit Ford cars.

Walden No. 8 Combination Socket Wrench Set.
List Price\$9.00

WILLIAMS' No. A "FORD" WRENCH SETS



Consists of the following tools, fitting all nuts and bolts on Ford cars:

	Size Opening	List Price Each
1 No. 27 Double Head Wrench, 19/32" & 11/16"		\$.46
1 No. 702 S. H. Cap Screw Wrench, 7/8"		.32
1 No. 263-D Offset Socket, 29/64"		.48
1 No. 264-A Offset Socket, 33/64"		.52
1 No. 965-D Straight Socket, 37/64"		.58
1 No. 265-D Offset Socket, 37/64"		.58
1 No. 265-A Offset Socket, 39/64"		.58
1 No. 266-D S. Offset Socket, 41/64"		.84
1 No. 267-A Offset Socket, 45/64"		.72
1 No. 267-D Offset Socket, 49/64"		.72
1 No. 268-A Offset Socket, 51/64"		.80
1 No. 269-A Offset Socket, 51/64"		.92

The above tools full finished and packed in neat canvas roll.

List Price\$8.25

MOSSBERG SOCKET WRENCH SET

No. 15

FOR FORD CARS



This set includes Wrenches which will fit every nut or bolt on the Ford car, including several special wrenches for Fords. Contains the following tools:

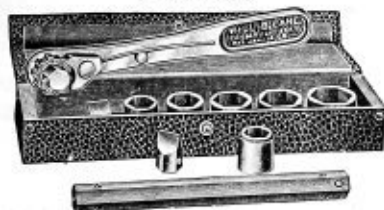
Ratchet Socket Wrench, No. 350; Tubular Extension Bar, 9 1/2" long, No. 351; Universal Joint, No. 336; Double Offset Screw Driver; 5" Monkey Wrench; Spark Plug Socket, 31/32" fitting Champion X Plug; 1 Special 19/32" Oval Socket for Crank Shaft Bearing Bolts; 2 Special Taper Sockets, 17/32" and 19/32", fitting rear axle housing bolts, crank-case opening screws, etc.; 11 Regular Black Rust-proof Finished Pressed Steel Sockets, fitting Standard screws, nuts, bolts, etc., from 1/4" to 5/8" Hexagon; 1 5/8" and 1 1/8" square.

No. 15 Mossberg Socket Wrench Set, for Ford Cars. Packed in Wooden Box. List Price.....\$8.00

WRENCHES FOR FORDS

UNIQUE SOCKET WRENCH SET

For Fords.



Includes the right sized sockets to fit all nuts and bolts on Ford cars. Outfit includes one 7" ratchet handle, 6 sockets, 2 screw driver bits, and one 6" extension bar. Packed in strong fibroid case. Weight, 22 oz.

List Price\$3.50

MOSSBERG RATCHET SOCKET WRENCH

SETS

No. 30.

For Fords.



Contains a compact assortment of sockets fitting Fords and is intended for the motorists' tool box. A complete popular outfit containing all socket sizes much in demand.

Set includes one No. 355 Ratchet Socket Wrench, black finish; 1 No. 351 9 1/4" nicked extension tube; 1 No. 336 Universal Joint; 1 Double End Offset Screw Driver; 10 rust proof sockets as follows: One oval socket No. 119-F to fit main bearing bolts Fords 1915 model and earlier; 1 No. 407 spark plug socket fitting Champion "X," etc.

No.	Size Hex Sockets	Fits U. S. Std. Bolt Size, In.	Fits S. A. E. Screw Size, In.	Hex Head Cap Screw Size, In.
*117-T	17/32	3/4	1 1/8	1 1/8
*119-T	19/32	7/8	1 1/4	1 1/4
121	21/32	1	1 1/2	1 1/2
123	23/32	1 1/8	1 3/4	1 3/4
125	25/32	1 1/4	2	2
129	29/32	1 1/2	2 1/4	2 1/4
131	31/32	1 5/8	2 3/4	2 3/4

* No. 117 is tapered to fit rear axle housing bolts and nuts.

* No. 119 is tapered to fit engine base bolts.

One No. 169 square socket 19/32" opening fitting 1/8" square head cap screw; 3/8" carriage bolt, and 1/8" square cap screw.

Packed in neat wooden box, all tool rust proof finish.

No. 30 Socket Wrench Set.

List Price\$6.10

No. 632 DIFFERENTIAL PINION CASTLE END WRENCH



Enables exact adjustment, due to special shape of sockets. Length 10 3/4".

List Price, Each.....\$.75

No. 622 CRANK SHAFT BEARING BOLT WRENCH



A sturdy tool; length 10 " with 19/32" square socket.

List Price, Each.....\$.60

No. 638 CONNECTION ROD CLAMP SCREW WRENCH



The most practical tool for its particular purpose. Length 9 1/4". Handle has 37/64 " offset.

List Price, Each.....\$1.25

No. 624 REVERSIBLE RATCHET CONNECTING ROD WRENCH



A difficult adjustment at best in an inconceivably hard place to fit a wrench and turn the bolt, but when you once fit "624" you need not stop until the adjustment is complete, because it ratchets.

List Price, Each.....\$2.24

No. 630 CYLINDER HEAD AND REAR AXLE HOUSING SOCKET WRENCH



"Triple End" Wrench for Fords. Fits all 7/8" and 1" bolts and screws. It fits the cylinder head set screws and rear axle housing nuts, both of which need special tapered sockets.

List Price, Each.....\$.64

No. 636 FLYWHEEL CAP SCREW WRENCH



List Price, Each.....\$1.25

No. 635 DOUBLE-END SPARK PLUG AND CYLINDER HEAD SCREW WRENCH



Socket opening, 41/64" for 1/8" bolts.

List Price, Each.....\$.90

REVERSIBLE RATCHET CYLINDER HEAD AND REAR AXLE HOUSING SOCKET WRENCH No. 631



Accomplishes difficult, inaccessible work in a quick and easy manner.

List Price, Each.....\$3.00

No. 623 CONNECTING ROD WRENCH



Unnecessary to take down engine.

List Price, Each.....\$.46

No. 17 HEAVY DUTY SOCKET SET For Ford Cars.



Consists of five double-end socket wrenches, each 8" long, fitting practically all the nuts or bolts on Ford cars. Contains wrenches with hexagon sockets of the following sizes, inside

measurement: 17/32, 19/32, 21/32, 23/32, 25/32, 29/32, 31/32; 19/32 square. Spark plug socket size 31/32; oval socket for early Ford main bearing bolt. Set is neatly packed in brown canvas kit.

List Price, No. 17 Set (10 openings).....\$5.00

SPECIAL SINGLE END SOCKET WRENCHES



No. 621 for 5/16" screws (cylinder head).....

List Price, Each.....\$.38

No. 625 for 3/8" screws (engine base).

List Price, Each.....\$.36

"ALL-STEEL" SPEED BRACE SOCKET WRENCHES



Construction— $\frac{3}{8}$ " bar steel with drawn "heavy duty" sockets with 4" "throw."

Length—19 $\frac{1}{4}$ " over all.

Finish—Rustproof Black.

Packing—Six in heavy shelf carton.

No. 611 socket opening 37/64" fits: $\frac{3}{8}$ " bolts, engine base bolts, etc.

No. 612 socket opening 41/64" fits: $\frac{7}{16}$ " bolts, cylinder head bolts, etc.

Mossberg Speed Brace Socket Wrenches for
Fords, Nos. 611 and 612. List Price, Each.....\$.78

No. 650 HUB CAP WRENCH



The regular and very necessary hub cap wrench, carefully made from finest steel. Drawn box ends.

List Price, Each.....\$.20

No. 645 RATCHET BRAKE PEDAL AND REVERSE PEDAL TENSION WRENCH



No. 645 is the best possible way to adjust Brake Pedal Tension Springs. It is a Ratchet.

List Price, Each.....\$.60

IDEAL FORD CONNECTING ROD WRENCH



The most ingenious type of socket wrench which enables the repair shop to easily and quickly tighten nuts on the Ford fourth rod and other most inaccessible places. Its construction is unique, as it really consists of

two leverages; one secured by small crank, the other by brace sweep. Well made, neatly finished. Particularly valuable in the modern, high efficiency Ford repair shop.

Ideal Ford Connecting Rod Wrench.

List Price, Each.....\$7.50

MOSCO SOCKET NUT AND BOLT HOLDER

For Fords.



IN POSITION ON CRANK CASE BOLTS

A real time-saving device. Eliminates the services of the extra man in tightening engine and transmission nuts and bolts. Consists of a simple socket device

provided with wings which wedge against side of crank or transmission case and prevent nut or bolt head from turning while man beneath tightens the bolts. Made of heavy pressed steel with reinforced wings welded to body of socket. Case hardened. Packed ten in a carton. Size 4 $\frac{1}{2}$ "x3"x1".

Mosco Socket Nut Holder. List Price,
per set of 10.....\$2.00

GARAGE SERVICE WRENCHES

AS APPLIED TO
FORD CARS

1620 Tomahawk, Triple socket Wrench. Socket sizes 5/8" and 1/2". This is the original Triple Socket Wrench, trademark "TOMAHAWK," having 1/2" rod connecting the two sockets. The sockets are particularly shaped to increase their usefulness. Will fit the following:

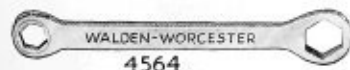
Axle housing bolt and nut
Brake shoe support bolt
Cylinder head cap screw
Dash bracket to Dash bolt and nut
Drive shaft roller bearing, stud and nut
Water cylinder inlet connection cap screw
Water cylinder outlet connection cap screw

1620 Code TOMAHAWK Wt. 1.05 lbs. Each .65



5810 Connecting Rod Wrench. Fits all connecting rod cap nuts. Includes the fourth connecting rod. This is an original design, the first wrench made to reach the fourth connection without removing the engine from the car. Be sure you get the wrench with all right angle bends and loop handle. No. 5810 stamped on handle.

5810 Code WATSON Wt. .93 lbs. Each .50



4564 Ratchet Wrench. 11/16" hex opening particularly designed for use on the Ford brake and reverse transmission bands. Opposite end 15/16" for use on slow speed connecting lock nut and also CHAMPION X Spark Plugs. One of the most valuable tools to an owner on account of the ease in taking up bands.

4564 Code WARREN Wt. .62 lbs. Each 1.20



2718 Tee Handle Wrench. Socket 9/16", handle 6", shank 12".

Used on:
Commutator case support bolt
Crank case and cylinder cover cap screw

Cylinder cover bolt and nut
Cylinder cover cap screw
Fan adjusting screw and nut
Magnet bolts
Radiator stud nut
Universal ball cap bolt and nut

2718 Code ORANGE Wt. 1.12 lbs. Each .55



2720 Tee Handle Wrench. Socket 5/8", handle 6", shank 12".

Used on:
Commutator case support bolt (On cars with self starter)
Cylinder cover cap screw (On cars with self starter)
Drive shaft roller bearing stud nut

2720 Code OTIS Wt. 1.18 lbs. Each .55



5660 Triple Socket Offset Wrench. Socket sizes 15/16", 7/8" and 11/16". Length over all 10-1/2". Handle particularly designed for heavy duty. Will fit the following:

Body bracket bolt and nut
Front radius rod nut
Front spring perch nut
Front and rear spring hanger nut
Hub bolt and nut
Radius rod bolt and nut
Rear spring clip nut
Spindle bolt with oiler
Spindle connecting rod bolt with oiler
Spindle connecting rod bolt nut

5660 Code WARWICK Wt. 1.56 lbs. Each 1.10



2418 Double Socket Offset Wrench. Socket sizes 9/16" and 3/4". Length over all 9". Will fit the following:

Brake reverse support bolt and nut
Brake shoe support bolt
Clutch pedal support bolt and nut
Crank case arm bolt and nut (side)
Crank case arm bolt and nut (top)
Crankshaft bearing bolt nut
Crankshaft rear bearing bolt
Dash bracket to dash bolt and nut
Differential case stud nut
Fan bracket bolt
Front fender iron bolt and nut (bottom)

Front spring clip nut
Inlet and exhaust clamp stud and nut
Spindle bolt nut
Steering post bracket bolt and nut
Steering yoke clamp bolt and nut
Universal ball cap, bolt and nut
Universal ball cap screw

2418 Code LINCOLN Wt. 1.00 lbs. Each .75



3822 Socket size 11/16" hex. Used on fly wheel cap screws, heretofore considered an impossible place for a socket wrench. An ugly place made accessible.

3822 Code ROCKPORT Wt. .75 lbs. Each .60



1881 Socket sizes, 9/16" hex and 9/16" square. Length over all, 9". Will fit the following:
Crank shaft, bolt and nut
Piston pin, locking screw
Running board, bolt nut
Running board to fender, bolt nut

1881 Code LAWSON Wt. 1.13 lbs. Each 1.00

GARAGE SERVICE WRENCHES

AS APPLIED TO
FORD CARS

6018 Long Shank (11") Brace Speed Tool. Over all length 19-1/4". Socket size 9/16". Used on: Commutator case support bolt
Crank case and cylinder cover cap screw
Cylinder cover cap screw
Fan adjusting screw and nut
Magnet bolts
Transmission cover bolt and nut

6018 Code WENDEL Wt. 1.34 lbs. Each .80



6020 Long Shank (11") Brace Speed Tool. Over all length 19-1/4". Socket size 5/8". Used on: Commutator case support bolt (On cars with self starter)
Cylinder cover cap screw (On cars with self starter)
Cylinder head cap screws

6020 Code WESTFORD Wt. 1.41 lbs. Each .80



6218 Long Shank (20") Brace Speed Wrench. Socket size 9/16". Over all length 28". Used on: Front fender iron bolt nut (side)
Radiator stud nut

6218 Code WHITMAN Wt. 1.74 lbs. Each 1.00



6064 Short speed wrench. Socket size, 1/2" hex. Length over all, 12-3/8". Will fit the following: Crank case, lower cover screw
Differential drive gear case
Muffler rod nut
Rear axle housing, bolt and nut
Steering tube flange, bolt and nut

6064 Code WILDER Wt. 1.02 lbs. Each .70

TEEFLEX WRENCHES

TeeFlex Universal joints and sockets have been used in combination with wrenches and are now complete in one solid tool. Will reach nuts otherwise inaccessible.



1016 Socket size, 1/2" hex. Length over all 13-1/4". Will fit the following: Crank case, lower cover screw
Dash bracket to dash, bolt nut
Muffler rod nut
Steering tube flange, bolt nut

1016 Code HOWARD Wt. 1.03 lbs. Each 2.00



1018 Socket size, 9/16" hex. Length over all 13-1/4". Will fit the following: Carburetor flange, bolt and nut
Commutator case support bolt
Cylinder valve cover, stud nut
Inlet and exhaust clamp, stud nut
Universal ball cap, bolt and nut
Universal ball cap, cap screw

1018 Code HOBSON Wt. 1.16 lbs. Each 2.00

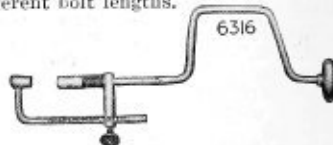


1020 Socket size, 5/8" hex. Length over all, 13-1/4". Will fit the following: Connecting rod cap nut
Cylinder head, cap screw
Water cylinder inlet connections, cap screw

1020 Code HOOSAC Wt. 1.19 lbs. Each 2.00

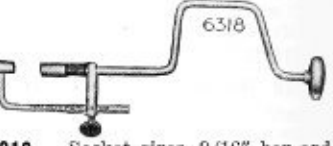
NUT AND BOLT
SPEED WRENCHES

A one man tool. The extension socket holds either the nut or bolt head while the operator spins it off. Extension arm is adjustable for different bolt lengths.



6316 Socket sizes, 1/2" hex and 1/2" hex. Length over all, 20-3/8". Will fit the following: Rear axle housing bolt and nut

6316 Code WILCOX Wt. 1.75 lbs. Each 2.00



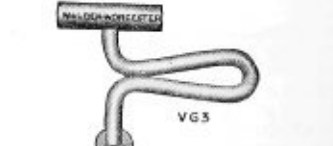
5318 Socket sizes, 9/16" hex and 9/16" hex. Length over all, 20-3/8". Will fit the following: Ball socket, bolt and nut
Crank case arm, bolt and nut (side)
Steering post bracket, bolt and nut
Steering yoke clamp, bolt and nut
Transmission cover, bolt and nut

6318 Code WOODVILLE Wt. 1.78 lbs. Each 2.00



VG2 Long Shank Brace Grinder Wrench. Some garage men prefer the brace grinder in place of short grinder VG3. Fork end flexible and will reach all valves including one under the dashboard.

VG2 Code ACCORD Wt. 1.25 lbs. Each .80



VG3 Short Valve Grinder Wrench—all steel. The original wire handle valve grinder redesigned with 5/8" bar handle which swivels on cone bearing. The fork end fits the head perfectly.

VG3 Code ACTON Wt. .50 lbs. Each .50

Please use our stock numbers on your orders

GARAGE SERVICE WRENCHES

NO. 80 DISPLAY AND STOCK SET
SPECIAL WRENCHES
FOR USE ON FORD CAR

Wrenches for Ford cars are in constantly increasing demand. *Walden-Worcester* wrenches are original models. This free Display Board allows you to display your stock and will multiply your sales.

These free Display Boards have wooden backs, the front is of sheet metal handsomely lithographed in black and golden rod, the books are held by nut and check nut and there is no possibility of the board warping out of shape. An ornament to any store and a valuable sales producer.

No. 80
DISPLAY AND STOCK SET

5	1020	\$.65	\$3.25
5	5810	.50	2.50
5	2718	.55	2.75
5	2720	.55	2.75
5	4564	1.20	6.00
5	2418	.75	3.75
5	1018	2.00	10.00
5	1020	2.00	10.00
5	6064	.70	3.50
5	6018	.80	4.00
5	6020	.80	4.00
5	VG-2	.80	4.00
5	VG-3	.50	2.50
5	5000	1.10	5.50
5	1881	1.00	5.00
5	3822	.60	3.00

80 Wrenches Total, \$72.50

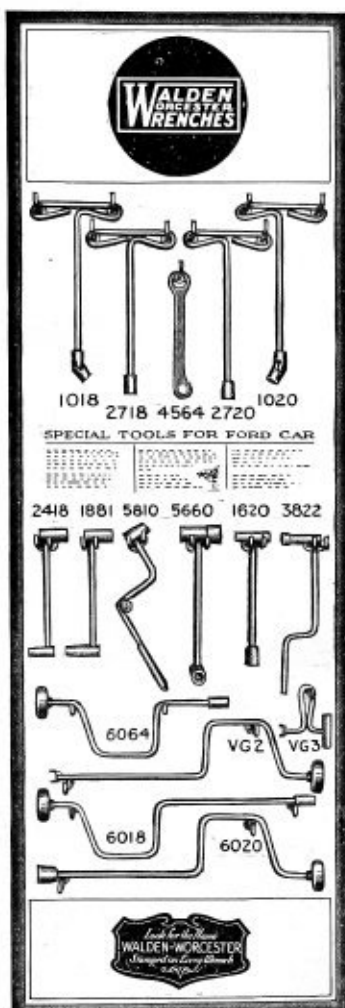
Board and Hooks (crated) 50 lbs.
Wrenches (boxed for shipment) 103 lbs.
Wrenches (net weight) 85 lbs.
Size of Board, 6 ft. x 2 ft.

80 Wrenches
Complete with Display Board

80

Code CHESTER

72.50

DIRECTORY OF WRENCHES
FORD CAR

Name of Part Wrench

BODY PARTS

Body bracket connecting bolt nut 5660
Dash bracket to dash bolt nut 1620-6064

CARBURETOR ATTACHMENTS

Carburetor flange bolt and nut 1018

FAN

Fan adjusting screw 2718-6018
Fan bracket bolt 2418

FENDERS

Front fender iron bolt nut (side) 2418
Front fender iron bolt nut (bottom) 2418

DIRECTORY OF WRENCHES
FORD CAR

CONTINUED

FRONT AXLE

Ball socket bolt and nut 6018
Front radius rod nut 5660
Spindle bolt nut 2418
Spindle bolt with oiler 5660
Spindle connecting rod bolt and nut 5660
Spindle connecting rod bolt with oiler 5660
Steering yoke clamp bolt & nut 2418

MAGNETO

Fly Wheel cap screw 3822
Magnet bolt 2718-6018

MOTOR

Commutator case support bolt 2718-6018
Commutator case support bolt (On cars with self starter) 2720-6020
Connecting rod cap bolt nut 5810-6020
Crank case arm bolt and nut (side) 2418
Crank case arm bolt and nut (top) 2418
Crank case & cylinder cover cap screw 6018-2718

Crank case lower cover screw 6064
Crank shaft bearing bolt

Crank shaft bearing bolt centre and front 1881-2418
Crank shaft bearing bolt nut 2418

Cylinder cover bolt nut 2718
Cylinder cover cap screw 2718-6018

Cylinder cover cap screw (Cars with self starter) 2720-6020
Cylinder head cap screw 1620-6020

Cylinder valve cover, stud nut 1018
Inlet & exhaust clamp stud nut 2418-1018

Piston pin lock screw 1881
Water cyl. inlet connect. cap screw 1620

Water cyl. outlet connect. cap screw 1620

MUFFLER

Muffler rod nut 6018-6064-2718

RADIATOR

Radiator stud nut 2718

REAR AXLE

Axle housing bolt and nut 6064-1620
Brake shoe support bolt 1620

Brake shoe support nut 2418
Differential case stud nut 2418

Differential drive gear screw 6064
Drive shaft roller bearing, stud nut 2720-1620

Radius rod bolt and nut 5660
Rear hub lock nut 5660

RUNNING BOARDS

Running board, bolt nut 1881
Running board fender, bolt nut 1881

SPRINGS

Front spring clip nut 2418
Front and rear spring hanger nut 5660

Front spring perch nut 5660
Rear spring clip nut 5660

STEERING GEAR

Steering post bracket, bolt & nut 2418
Steering tubing flange 6064

TRANSMISSION CONTROL

Brake adjusting nut 4564
Brake reverse support bolt nut 2418

Clutch pedal support bolt nut 2418
Controller shaft, bracket bolt and nut 2418

Hub brake rod support, bolt and nut 1620
Reverse adjusting nut 4564

TRANSMISSION COVER

Transmission cover bolt and nut 6018
Universal ball cap, bolt and nut 1018-2718

Universal ball cap screw 1018-2418

WHEELS

Hub bolt nut 5660-6022
Rear hub lock nut 5660

Please use our stock numbers on your orders

SCREW DRIVERS

Vichek



Hand forged tool steel. Polished round blades with black rubberoid finished handles.

Length	2"	3"	4"	5"	6"
Diameter blades	$\frac{1}{8}$ "	$\frac{7}{32}$ "	$\frac{7}{32}$ "	$\frac{1}{4}$ "	$\frac{1}{4}$ "
List Price, Each	\$.20	\$.20	\$.25	\$.30	\$.35
Length	7"	8"	10"	12"	
Diameter blades	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	
List Price, Each	\$.40	\$.45	\$.50	\$.65	

ELECTRICIANS' HAMMER HEAD DRIVERS



Hand forged tool steel blades, highly polished, with black rubberoid finished handles. Constructed so that there is no metal contact between shank and cap, rendering a complete insulation between blade and handle.

Diameter blade	$\frac{7}{32}$ "	$\frac{1}{8}$ "	$\frac{1}{8}$ "	$\frac{1}{8}$ "	$\frac{5}{16}$ "	$\frac{1}{4}$ "
Length	3"	4"	5"	6"	8"	10"
List Price, Each	\$.25	\$.30	\$.35	\$.40	\$.50	\$.60

PERFECT HANDLE SCREW DRIVER



Handle is riveted on under pressure and cannot loosen. May be used with hammer as metal extends beyond handle. Wood handle neatly lacquered. Packed $\frac{1}{2}$ doz. in box.

Length of blade	2"	2 $\frac{1}{2}$ "	3"	4"	5"
Length over all	5 $\frac{3}{4}$ "	6 $\frac{1}{4}$ "	7 $\frac{3}{4}$ "	8 $\frac{3}{4}$ "	9 $\frac{3}{4}$ "
Diameter	$\frac{1}{4}$ "	$\frac{1}{4}$ "	$\frac{1}{4}$ "	$\frac{1}{4}$ "	$\frac{1}{4}$ "
List Price, Each	\$.35	\$.37 $\frac{1}{2}$	\$.40	\$.45	\$.50
Length of blade	6"	7"	8"	10"	12"
Length over all	11 $\frac{1}{4}$ "	12 $\frac{5}{8}$ "	14 $\frac{5}{8}$ "	16 $\frac{5}{8}$ "	18 $\frac{5}{8}$ "
Diameter	$\frac{1}{8}$ "	$\frac{1}{8}$ "	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{3}{8}$ "
List Price, Each	\$.60	\$.70	\$.80	\$ 1.00	\$ 1.20

SCREW DRIVER

Hurwood No. 20



Shank extends through handle. Bits forged steel. Neat black fluted wood handle.

Length of blade	2 $\frac{1}{2}$ "	3"	4"	5"
Diameter blade	$\frac{7}{32}$ "	$\frac{7}{32}$ "	$\frac{1}{4}$ "	$\frac{1}{8}$ "
List Price, Each	\$.30	\$.33	\$.42	\$.47
Length of blade	6"	8"	10"	12"
Diameter Blade	$\frac{1}{8}$ "	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{3}{8}$ "
List Price, Each	\$.57	\$.72	\$.88	\$ 1.05

CARPENTERS' SCREW DRIVERS

Pexto No. 9



Round forged steel blade, hardened and tempered. Black rubberoid finish, fluted wooden handle.

Length of blade	2"	3"	4"	5"
Length over all	5 $\frac{3}{4}$ "	6 $\frac{3}{4}$ "	9"	10 $\frac{1}{2}$ "
List Price, Each	\$.35	\$.37 $\frac{1}{2}$	\$.40	\$.45
Length of blade	6"	8"	10"	12"
Length over all	11 $\frac{1}{2}$ "	13 $\frac{1}{2}$ "	17 $\frac{1}{4}$ "	19 $\frac{1}{4}$ "
List Price, Each	\$.50	\$.60	\$.65	\$.75

MACHINISTS' SCREW DRIVERS

Perfect Handle No. 610



Made extra heavy with square shank for using with wrench for large or badly rusted screws. Packed $\frac{1}{2}$ dozen in box.

Length over all	9 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "
Size of Shank	$\frac{1}{2}$ "	$\frac{3}{8}$ "
List Price, Each	\$ 1.20	\$ 1.30

CABINET SCREW DRIVER

Pexto No. 19



Round forged blade, hardened and tempered, and fitted with fluted wooden handle, black finish. Blades are slightly lighter in weight and bit is ground flush with bar, having no taper. Countersunk screws may be driven in without damaging work. Packed $\frac{1}{2}$ doz. in box.

Length of blade	2 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	4 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "
Length over all	6 $\frac{1}{4}$ "	7 $\frac{1}{4}$ "	8 $\frac{1}{4}$ "	11"	12"
List Price, Each	\$.35	\$.37 $\frac{1}{2}$	\$.40	\$.45	\$.50
Length of blade	7 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "	12 $\frac{1}{2}$ "	
Length over all	14"	15"	18"	20"	
List Price, Each	\$.60	\$.65	\$.75	\$ 1.00	

AUTOMATIC SCREW DRIVER

Millers Falls No. 41



Operates automatically by pressure on handle. Adjusting sleeve enables it to be operated in either direction, or may be locked at any desired position. Handle hardwood, all metal parts polished nickel plate. Two double-end screw driver bits and one single-end bit furnished. Length extended, 17 $\frac{3}{4}$ ". Length closed, 12".

No. 41 Automatic Screw Driver. List Price, Each, \$4.50

AUTOMATIC SCREW DRIVER

Millers Falls No. 11

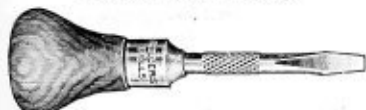


Smaller and lighter in weight than No. 41 Automatic Screw Driver and has automatic screw device for right hand turning only, but may be locked and used as ordinary screw driver. Handle hardwood. Metal parts polished nickel plate. Three 4" screw driver bits (two with double ends) are included. Length extended, 15". Length, closed, 9 $\frac{1}{2}$ ".

No. 11 Automatic Screw Driver. List Price, Each, \$3.65

MIDGET SCREW DRIVER ASSORTMENT

Millers Falls No. 660



Consists of an attractive display card with one dozen assorted size No. 66 screw drivers. Blade is polished with knurled shank and cocobolo wood handle. Also sold separately.

Length of blade..... 1 1/8" 2 1/8" 3 1/8"
List Price, per doz..... \$3.10 \$3.20 \$3.30

No. 660 Screw Driver Assortment, 1 dozen assorted No. 66 Midget Screw Drivers on neat counter display card. List Price.....\$3.50

LITTLE WONDER SCREW DRIVER ASSORTMENT



Neat, handy little tools with 1/4" diameter blades which are rigidly fastened to handle, preventing turning. Polished steel blade with hardwood handle. Assortment consists of a total of one dozen screw drivers; 3

each of 1 1/4", 2", and 3" length blades, mounted on neat counter display card, making an attractive showing on the store counter.

Little Wonder Screw Driver Assortment.

List Price.....\$1.75

Little Wonder Screw Drivers, any size.

List Price, per doz.....\$1.70

3-IN-1 SCREW DRIVER



A neat compact little tool, 3 3/4" in length, weighing but 1 1/2 oz. Consists of a nest of three Screw Drivers. Small enough to carry in the vest pocket. Finished in polished nickel plate. Neatly knurled handle.

3-in-1 Screw Driver. List Price, Each.....\$.35

3-IN-1 DISPLAY CARD



3-IN-1 DISPLAY CARDS

Enable the dealer to neatly display these convenient Little Screw Drivers on his counter. 3-in-1 Screw Drivers are packed 1 dozen on these neat display cards, which are handsomely lithographed in colors.

SCREW DRIVER BITS

Pexto No. 48



Drop forged steel with polished blades and shanks. Fit any standard brace. Packed in box of one set (including one of each size or one dozen of one size).

Nos.	4	5	6	8
Diameter shank.....	3/8"	1/2"	5/8"	1"
Length.....	4"	4 1/2"	5"	5 1/2"
List Price, Each.....	\$.40	\$.40	\$.40	\$.40

No. 48 Set of 4 Bits, one each 1/4", 1/2", 3/8", 1/2".
List Price, per set.....\$1.60

OFFSET SCREW DRIVERS



Drop forged octagon tool steel, ebony finish.

Length	5"	6"	7"	8"
List Price	\$.30	\$.35	\$.35	\$.40

UNIQUE OFFSET RATCHET SCREW DRIVER



Especially useful where straight handle screw driver cannot be used. Ratchet enables screw driver to be used in very narrow space. Tool consists of 6" drop forged, case hardened and polished handle, with two screw driver bits. Weight, 5 oz.

List Price.....\$1.75

4-IN-1 SCREW DRIVER



Consists of a nest of Screw Drivers in one compact outfit. Length over all, 5 3/4". Weight, 3 oz. Neatly knurled handle.

4-in-1 Screw Driver. List Price.....\$.75



4-IN-1 DISPLAY STAND

A handsome colored lithographed sheet metal display stand, 7 1/2" long x 8 1/2" high x 3 3/4" deep. Is arranged with rack to hold one 4-in-1 Screw Driver on display while balance of stock may be carried on shelf behind display stand. Given free with orders for fifteen 4-in-1 Screw Drivers.

BALL PEIN HAMMERS



Weights do not include handles.

Drop forged crucible tool steel, octagon or round pattern.

No. 102 Polished Face, sides and pein ebony octagon. No. 106 Natural Finish with polished face and pein.

Packed 1/2 dozen in box.

Weight	List Price Each	Weight	List Price Each
4 oz.	\$1.75	1 3/4 lb.	\$2.25
6 oz.	1.75	2 lb.	2.50
8 oz.	1.75	2 1/4 lb.	2.50
12 oz.	1.75	2 1/2 lb.	2.75
1 lb.	1.75	2 3/4 lb.	2.75
1 1/4 lb.	2.00	3 lb.	3.00
1 1/2 lb.	2.00		

For Unfinished Hammers deduct \$.25 from above List Prices.

BLACKSMITHS' HAND HAMMERS



Warranted solid tool steel. Weights do not include handles. Packed 1/2 dozen in box.

No.	Weight	List Price Each
100	1 lb. 4 oz.	\$2.00
101	1 lb. 10 oz.	2.00
202	2 lb. 2 oz.	2.25
104	3 lb. 2 oz.	2.50
103	2 lb. 11 oz.	2.25
105	3 lb. 8 oz.	2.75

RIVETING HAMMERS



Weights do not include handles

Best quality tool steel, drop forged, polished.

Nos.	0	1	2	3
Weight, oz.	4	7	9	12
List Price, Each	\$1.50	\$1.50	\$1.75	\$1.75
Nos.	4	5	6	7
Weight, oz.	15	18	22	26
List Price, Each	\$1.75	\$2.00	\$2.00	\$2.25

RUBBER MALLET



No.	Weight	List Price, Each
1.	1 3/4" Face.	.50
2.	2" Face.	.75
3.	2 3/8" Face.	1.00

SLEDGES



Best quality crucible steel with polished faces. Weights given are weight of head only. Handles extra.

Weight	List Price Each	Weight	List Price Each
4 lb.	\$1.20	10 lb.	\$2.50
6 lb.	1.75	12 lb.	3.00
8 lb.	2.00	16 lb.	4.00

HAMMER AND SLEDGE HANDLES



Selected second growth hickory stock, polished.

Length	List Price Each	Length	List Price Each
10"	\$.15	16"	\$.18
12"	.15	36"	.75
14"	.15		

COPPER HAMMERS



For driving bushings, bolts, or fragile parts. Made of soft copper with hardwood handles firmly attached. Weights given are weight of copper head without handles.

Copper Hammer, 1/2 lb.	List Price, Each	\$.50
Copper Hammer, 1 lb.	List Price, Each	1.00
Copper Hammer, 1 1/2 lb.	List Price, Each	1.40

RAWHIDE MALLET

Loaded



Made of best quality rawhide with a central strip of soft heavy metal rolled up with the hide, doubling the weight without increasing the size. Equipped with hardwood handle.

No.	Weight	Diam. of Face	List Price Each
7	8 oz.	1 1/4"	\$1.10
8	12 oz.	1 1/2"	1.30
9	18 oz.	1 3/4"	1.50
10	20 oz.	2"	1.80
11	44 oz.	2 3/4"	4.00

RAWHIDE HAMMERS



Hide facing prevents injury to job or damage to delicate parts. Hide inclosed in malleable frame with wood handles.

No.	Weight	Diam. of Face	List Price Each
2	1 1/8 lbs.	1 1/2"	\$2.65
3	2 1/4 lbs.	1 3/4"	3.15
4	4 lbs.	2"	4.60

HAN-D HAMMERS



A practical, useful tool. Consists of a 10 oz. nickel plated Hammer with hollow steel handle, with three screw drivers nested inside. Length, 7 1/2". Entire outfit nickel plated and polished.

Han-D Hammers. List Price, Each.....\$1.25

COLD CHISELS



Hand Forged Octagon Tool Steel, Polished Taper, Ebony Shank.

Diameter.....	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Length.....	5"	5"	5"	6"	6 3/4"	7 1/2"	8"
List Price.....	\$.21	.23	.27	.43	.52	.72	1.00 1.25

KNURLED HANDLE COLD CHISELS



Hammer Forged, electrically tempered tool steel. Embossed handle, polished taper, natural shank.

Diameter.....	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Cutting Edge.....	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Length.....	5 1/2"	5 1/2"	5 1/2"	5 1/2"	5 1/2"	5 1/2"	6"
List Price.....	\$.26	.31	.36	.40			
Diameter.....	5/8"	5/8"	7/8"	7/8"			
Cutting Edge.....	5/8"	3/4"	7/8"	1"			
Length.....	6"	6 1/2"	6 1/2"	7"			
List Price.....	\$.55	.67	1.01	1.16			

CAPE CHISELS



Hand Forged Octagon Tool Steel Polished Taper, Ebony Shank.

Diameter.....	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Width.....	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Cutting edge.....	7/32"	1/4"	3/8"	1/2"	5/8"	3/4"	1"
List Price.....	\$.24	.24	.30	.47	.57	.77	.95 1.25

KNURLED HANDLE CAPE CHISELS



Hammer forged from electrically tempered tool steel, embossed hand hold, polished taper, natural shank.

Cutting Edge.....	1/8"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Diameter of Steel.....	1/8"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Length.....	5 1/4"	6"	6 1/4"	6 1/4"	7"	7"	
List Price.....	\$.42	.47	.55	.63	.71	.80	

KNURLED DIAMOND POINT CHISELS



Hand forged electrically tempered tool steel, embossed hand hold, polished taper, natural shank.

Cutting Edge.....	1/4"	1/2"	3/4"	1"			
Diameter of Steel.....	3/8"	1/2"	5/8"	3/4"			
Length.....	5 1/4"	5 1/2"	6"	6"			
Price List.....	\$.50	.55	.60	.80			

DIAMOND POINT CHISELS



Hand Forged Octagon Tool Steel, Polished Taper, Ebony Shank.

Diameter.....	1/8"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Size Point.....	7/32"	1/4"	3/8"	1/2"	5/8"	3/4"	
List Price.....	\$.24	.30	.47	.57	.77	.95	1.25

HALF-ROUND NOSE CHISELS



Hand Forged Octagon Tool Steel, Polished Taper, Ebony Shank.

Diameter.....	1/8"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Size Point.....	7/32"	1/4"	3/8"	1/2"	5/8"	3/4"	
List Price.....	\$.24	.30	.47	.57	.77	.95	1.25

KEY SEATING CHISELS



Hand Forged Octagon Tool Steel, Polished Taper, Ebony Shank.

Diameter.....	1/8"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Size Point.....	7/32"	1/4"	3/8"	1/2"	5/8"	3/4"	
List Price.....	\$.24	.30	.47	.57	.77		

ROUND NOSE CHISELS



Hand Forged Octagon Tool Steel, Polished Taper, Ebony Shank.

Diameter.....	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Length.....	4	4 1/2	5	5 1/2	5 3/4	6 1/4	7	8
List Price.....	.24	.24	.26	.30	.35	.40	.60	.90 1.30 1.65

KNURLED HANDLE ROUND NOSE CHISELS



Hand forged electrically tempered tool steel, embossed hand hold, polished taper, natural shank.

Cutting Edge.....	1/8"	3/8"	1/2"	5/8"	3/4"
Diameter of Steel.....	1/8"	3/8"	1/2"	5/8"	3/4"
Length.....	5 1/4"	6"	6 1/4"	6 1/2"	7"
List Price.....	\$.42	.47	.55	.63	.71

MACHINISTS' CENTER PUNCHES



Hand Forged Octagon Tool Steel, Polished Taper, Ebony Shank.

Diameter.....	1/8"	3/8"	1/2"	5/8"	3/4"
Length.....	5"	5"	5"	5 1/4"	6"
List Price \$.....	.20	.20	.25	.30	.40

MACHINISTS' CENTER PUNCHES

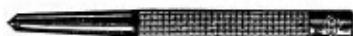
Cast Steel



Octagon Steel, Polish Taper, Ebony Shank.

Diameter.....	1/8"	3/8"	1/2"	5/8"	3/4"
Length.....	4 1/4"	4 1/2"	5"	5 1/4"	6"
Price List \$.....	.15	.15	.20	.25	.40

KNURLED CENTER PUNCHES



Hammer forged from electrically tempered tool steel embossed hand hold, polished taper, natural shank.

Diam. Body.....	1/2"	13/32"
List Price.....	\$.30	\$.30

TINNERS' PRICK PUNCHES



Hand Forged Octagon Tool Steel, Polished Taper, Ebony Shank.

Diameter.....	1/8"	3/8"	1/2"	5/8"	3/4"
Length.....	4 3/4"	5"	5 1/2"	6"	6 1/2"
List Price \$.....	.20	.20	.25	.30	.40

KNURLED PRICK PUNCHES



Hammer forged from electrically tempered tool steel, embossed hand hold, polished taper, natural shank.

List Price.....	\$.30
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MACHINISTS' DRIFT PUNCHES



Hand Forged Octagon Tool Steel, Polished Taper, Ebony Shank.

Diameter.....	1/8"	3/8"	1/2"	5/8"	3/4"
Diam. Pt.....	3/32"	1/8"	5/32"	3/16"	1/4"
Length.....	4 1/2"	4 3/4"	5 1/2"	6"	7"
List Price \$.....	.25	.25	.30	.35	.45

MACHINISTS' SOLID PUNCHES



Hand Forged Octagon Tool Steel, Polished Taper, Ebony Shank.

Diameter.....	1/8"	3/8"	1/2"	5/8"	3/4"
Diam. Pt. 3/32"	1/8"	5/32"	3/16"	1/4"	5/16"
Length.....	5"	5"	5 1/2"	6"	6 1/2"
List Price \$.....	.20	.20	.25	.30	.40

KNURLED HANDLE PIN PUNCHES



Hammer forged from electrically tempered tool steel, embossed hand hold, polished taper, natural shank.

Diam. Pin	Diam. Body	List Price Each
1/4"	1 1/2"	\$.30
1/8"	1 1/2"	.30
1/4"	13/32"	.30
5/32"	13/32"	.30
3/8"	13/32"	.30
7/32"	13/32"	.30

KNURLED HANDLE SOLID PUNCHES



Hand forged electrically tempered tool steel with embossed handle, polished taper, natural shank.

Diamond Point	Diamond Body	Price List
1/4"	1 1/2"	\$.30
1/8"	1 1/2"	.30
1/4"	13/32"	.30
5/32"	13/32"	.30
3/8"	13/32"	.30

MAYHEW COTTER PIN PULLER AND OFFSET SCREW DRIVER



Hand forged from electrically tempered tool steel, knurled hand hold, polished taper, natural shank.

Length.....	6 1/2"
List Price.....	\$.35

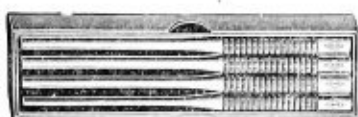
COTTER PIN EXTRACTORS



Hand forged cast steel, ebony finish, square stock.	
Length.....	5 1/2"
List Price.....	\$.20

KNURLED HANDLE PIN PUNCH ASSORTMENT Nos. 596, 494

Consists of a set of 4 9" inch pin punches with $\frac{1}{16}$, $\frac{1}{8}$, $\frac{1}{4}$, and $\frac{3}{8}$ " points. Hand forged electrically tempered tool steel polished taper, natural shank.



No. 596 Mayhew Pin Punch Set, Complete,

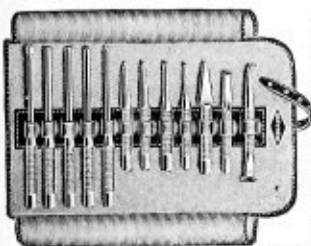
List Price.....\$1.50

No. 494 Set consists of 4 6" Mayhew Pin Punches with $\frac{1}{4}$, $\frac{5}{32}$, $\frac{3}{16}$, and $\frac{7}{32}$ " points. Hammer forged from electrically tempered tool steel, embossed hand hold, polish taper, natural shank.

No. 949 Mayhew Pin Punch Set, Complete,

Price List.....\$1.20

KNURLED HANDLE PUNCH AND CHISEL KIT No. 501



Consists of a selected assortment of most frequently used punches and chisels packed in brown canvas water-proof roll with leather strap. Invaluable in the shop or in the motorist's kit. Assortment consists

of the following hand forged electrically tempered tool steel tools with embossed hand hold, polished tapers, natural shanks.

No. 501 Mayhew Punch and Chisel Kit.

List Price.....\$5.25

KNURLED HANDLE PUNCH ASSORTMENT No. 490



Consists of 24 assorted size solid Center Prick and Pin Punches with embossed handles made from forged electrically tempered steel. Assortment comes in neat wooden box which is drilled to display punches to best advantage on your counter. Assortment consists of the following:

- 1 Each $\frac{8}{32}$ and $\frac{10}{32}$ " Point Solid Punches
- 2 Each $\frac{1}{8}$, $\frac{5}{32}$, and $\frac{6}{32}$ " Point Solid Punches
- 2 Center Punches, $\frac{1}{2}$ " body.
- 2 Center Punches, $\frac{13}{32}$ " body.
- 2 Prick Punches $\frac{13}{32}$ " body
- 1 Each $\frac{8}{32}$ and $\frac{10}{32}$ " Point Pin Punches
- 2 Each $\frac{4}{32}$, $\frac{5}{32}$, and $\frac{7}{32}$ " Pin Punches.

No. 490 Mayhew Punch Assortment Complete.

List Price.....\$6.50

KNURLED HANDLE CHISEL AND PUNCH ASSORTMENT



Consists of 17 assorted size Punches and 7 Cold Chisels. Hand forged electrically tempered tool steel with knurled hand hold polished, taper natural shank. Assortment comes in neat wooden box which is drilled to allow tools to be displayed as shown in illustration.

Makes a convenient, attractive way to display chisels and punches in a minimum space. Complete in box.

No. 430 Mayhew Punch and Chisel, Assortment

Complete. List Price.....\$7.50

CHISEL AND PUNCH DISPLAY SET B-M No. 720



Consists of six dozen knurled punches of various styles and sizes, mounted on neat hardwood display block. An easy method of increasing sales, as it enables the customer to handle and choose the tool he wishes. Assortment consists of round head nail sets, square head nail sets, round knurled center punches, round knurled prick punches, round knurled solid punches, round knurled pin punches, special 5" round knurled pin punches. Tools are drop forged steel, polished and blue finished.

B-M Punch Display Set No. 720. List Price.....\$22.50

CHISEL DISPLAY SET B-M No. 72



Consists of six dozen octagon Chisels of selected sizes and styles including every type frequently called for. Mounted on attractive hardwood display box, making a convenient and profitable way of showing chisels. Assortment consists of $\frac{1}{4}$ dozen each of the following:

- Cold Chisels, - - - $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ ", $\frac{3}{4}$ "
- Half Round Chisels, - - - $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ "
- Cape Chisels, - - - $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ "
- Half Round Cape Chisels, - - - $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ "
- Diamond Nose Chisels, - - - $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ "
- Round Nose Chisels, - - - $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ "
- Oil Groove Chisels, - - - $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ "
- Tile Chisels, - - - $\frac{1}{2}$ "

Every tool best quality drop forged tool steel, polished taper, ebony shank.

No. 72-B-M Chisel Display Set. List Price.....\$19.50

PITTSBURGH AUTO EQUIPMENT CO.

RIVET SETS

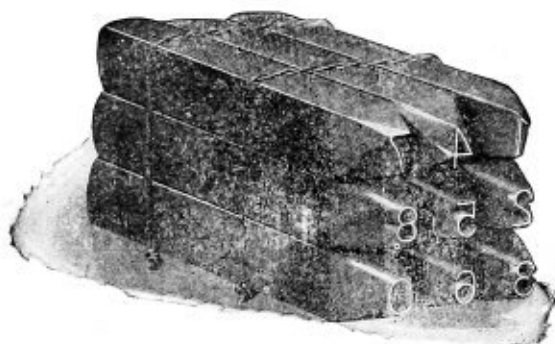


Hammer forged with carbon finished handle. Made for iron and copper rivets.

Rivet Set No.	0	1	2	3
For Iron Rivet Nos.	10-12	8	6	4-5
Fits Copper Rivet Nos.	5	6	7	8
List Price, Each	\$.85	\$.75	\$.75	\$.60

Rivet Set No.	4	5	6
For Iron Rivet Nos.	2 1/2-3	2-1 1/4	1 1/4
Fits Copper Rivet Nos.	9	10-11	12
List Price, Each	\$.60	\$.45	\$.45

STEEL NUMBERING STENCILS



Hand made of best tempered tool steel. Sold only in complete sets of 10 figures from 1 to 0. Invaluable for marking tools, parts, etc., in the shop or stock room.

Size	List Price Per Set	Size	List Price Per Set
1/8"	\$2.00	3/8"	\$6.00
3/16"	3.75	1/2"	8.50
1/4"	4.50		

STEEL ARCH SADDLER'S PUNCHES

B-M No. 5.



Made from tool steel, hardened and tempered. Polished keen edges. Shank carbon finish.

Size Hole	3/8"	7/16"	1/2"	5/8"	3/4"
List Price, Each	\$1.15	1.15	1.25	1.30	1.40

SADDLER'S PUNCHES

B-M No. 10.



Made from tool steel, hardened and tempered. Sharp polished edges. Shank carbon finish. Carried in the following sizes:

Size Punch	0	1	2	3
Size Hole	3/32"	7/64"	1/8"	9/64"
List Price, Each	\$.30	\$.30	\$.30	\$.30

Size Punch	4	5	6	7
Size Hole	5/32"	11/64"	3/16"	13/64"
List Price, Each	\$.30	\$.30	\$.30	\$.40

REVOLVING BELT PUNCH

Kraeuter No. 19



Drop forged tool steel with Kraeuter knurled handles and strong spring. Revolving spindle with six punches.

No.	Length	No. of Punches	Finish	List Price Each
19	8 3/4"	6	Kraeuter	\$2.80

BELT PUNCHES

B-M Revolving Drive—Nos. 160 and 260



Cast steel body, black finished. Polished turret with six punches of finest tool steel with reamed holes and keen edges.

No. 160 from	3/32" to 3/8"	
No. 260 from	1/8" to 3/8"	
No. 160.	List Price, Each	\$.90
No. 260.	List Price, Each	2.75

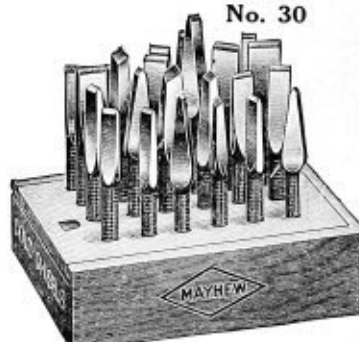
B-M WASHER CUTTER

No. 2.



A practical device for cutting any size washer or gasket up to 12" diameter. Blades may be easily sharpened and are replaceable at nominal cost. B-M Washer Cutter. List Price, Each \$2.00

KNURLED HANDLE CHISEL ASSORTMENT No. 30



Consists of two dozen assorted style chisels packed in neat wooden box which is drilled to allow chisels to be shown as in illustration. Each Mayhew Chisel is made with embossed hand hold hammer forged from special electrically tempered tool

steel. This assortment enables the dealer to make an attractive display on his counter.

2 1/4" Cold Chisels	2 1/8" Cape Chisels
3 3/8" Cold Chisels	2 1/4" Cape Chisels
3 1/2" Cold Chisels	1 1/4" Diamond Point Chisel
4 1/2" Cold Chisels	1 1/8" Diamond Point Chisel
3 5/8" Cold Chisels	
1 3/4" Cold Chisels	
1 1/2" Cape Chisel	

No. 30 Mayhew Assortment Complete.

List Price \$12.40

COMBINATION PLIERS

Kraeuter No. 356



Drop forged tool steel with all parts accurately machined. All sizes have wire cutter, while 6", 8" and 10" sizes only have screw driver point handle. Made with special Kraeuter knurled handles.

No.	Length	Finish	List Price Each
356	5½"	Polished Nickel Plate	\$1.05
356	6"	Polished Nickel Plate	1.20
56	6"	Black	1.05
356	8"	Polished Nickel Plate	1.45
56	8"	Black	1.20
356	10"	Polished Nickel Plate	1.80
56	10"	Black	1.55

COMBINATION PLIERS



Drop forged cast steel. An excellent quality low-priced plier, carefully made and will give good service. Black ebony finish only. Length 6".

List Price\$.45

COMBINATION PLIERS

Barcalo.



Drop forged carbon steel hardened and tempered with sharply cut teeth. Length 6½". Polished nickel plate.

List Price, Each.....\$.75

COMBINATION PLIERS



No. X.

Drop forged steel with hardened jaws. A high grade, low priced Plier. Length 6". Finished in polished nickel plate.

List Price, Each.....\$.60

COMBINATION SIDE CUTTING PLIERS

Kraeuter No. 1873



Drop forged steel with side cutting jaw and flat nose. Kraeuter knurled handles.

No.	Length	Finish	List Price Each
1873	7"	Polished Nickel Plate	\$1.90

COMBINATION PLIERS

Kraeuter No. 1973



The most practical all-around plier. Made of drop forged steel with extra wide handles and sharp cutting edge. Kraeuter knurled handle.

No.	Length	Finish	List Price Each
1973	5½"	Polished Nickel Plate	\$1.60
1973	7"	Polished Nickel Plate	1.95

THIN NOSE COMBINATION PLIERS

Kraeuter No. 1903



Drop forged tool steel with long thin nose and tapered jaws, screw driver and wire cutter. Kraeuter knurled handles.

No.	Length	Finish	List Price Each
1903	7"	Polished Nickel Plate	\$1.40

BENT NOSE COMBINATION PLIERS

Kraeuter No. 1923



For hard-to-reach jobs. Drop forged tool steel with screw driver handle. Kraeuter knurled handle.

No.	Length	Finish	List Price Each
1923	10"	Polished Nickel Plate	2.10
1923	8"	Polished Nickel Plate	\$1.75

UNIVERSAL PLIERS

Kraeuter Nos. 1305-305



Drop forged tool steel with upper jaw shaped to handle tapered article. Will handle half round, square, or triangular stock and grips pipe from ¾" to 1¼" diameter. Has wire cutter and screw driver on handle. Kraeuter knurled handles.

No.	Length	Finish	List Price Each
1305	7"	Polished Nickel Plate	\$1.60
305	7"	Polished Nickel Plate	1.50

LAP JOINT LINEMAN'S PLIERS

Krauter No. 1801



Drop forged tool steel with heavy head cutting edges and jaws. Depression next to cutting edges is useful in cutting wire. Krauter knurled handles.

No.	Length	Finish	List Price Each
1801	6"	Krauter	\$2.20
1801	7"	Krauter	2.60
1801	8½"	Krauter	3.05

ELECTRICIAN PLIERS

Krauter Nos. 1831-1834



Drop forged tool steel with beveled nose and back cutting slots. Krauter knurled handle.

Length	List Prices		Black Finish Polished Face
	Krauter Finish	Black Finish	
4"	\$1.45	\$1.25	
5"	1.55	1.35	
6½"	1.70	1.45	
7"	2.00	1.70	
8"	2.20	1.90	

NOTE.—No. 1831 refers to Krauter finish.
No. 1834 black finish, polished face.

END NIPPERS

Krauter Nos. 1850-1851



An easy working, single joint Nipper with compact jaw and rivet close to edge, affording a maximum leverage. Made with broad handles for easy cutting. Krauter knurled handles.

Length	List Price	
	No. 1851 Krauter Finish	No. 1850 Black Handle Polished Jaws
5"	\$1.45	\$1.35
6"	1.70	1.50
7"	2.00	1.80
8"	2.25	2.05

DIAGONAL CUTTING PLIERS

Krauter No. 2601



Electricians' Diagonal Pliers, made for close cutting. Long, sturdy joint to obtain extra rigidity to jaws and handles. Krauter knurled handles.

No.	Length	Finish	List Price Each
2601	5"	Krauter	\$1.90
2601	5½"	Krauter	2.00
2601	6"	Krauter	2.20

NEEDLE NOSE SIDE CUTTING PLIERS

Krauter No. 1661



Drop forged tool steel with very slender nose and points tapered to fine point. Krauter knurled handles.

No.	Length	Finish	List Price Each
1661	6"	Krauter	\$2.15

EXTRA LONG REACH FLAT NOSE SIDE CUTTING PLIERS

Krauter No. 1781



Extra long, slender jaws, 2¾" in length make this plier especially useful. Jaws scored. Krauter knurled handles.

No.	Length	Finish	List Price Each
1781	7"	Krauter	\$2.40

HANDY PICK-UP PLIERS

A useful device for rescuing wrenches, bolts, nuts, etc., that have fallen into mud pan, transmission case, gas tank, etc. When contracted, 7" in length; when extended, 21" in length.

Handy Pick-Up Pliers. List Price, Each.....\$.75

INSULATED PLIERS

A thin jaw plier, made with black vulcanized rubber handles, thoroughly insulating plier for electrical work. Equipped with wire cutter. Length, 7½". Finished in polished nickel plate.

Insulated Pliers. List Price.....\$.75

PEXTO PLIER ASSORTMENT

With 12 Pliers



With this Assortment is included a handsome lithographed metal display easel which may be either hung on the wall or stood on the counter. Size of stand, 22 x 28". The following Pliers are included:

- | | | |
|--|-----------------|----------------|
| 1 No. 30, 6" N. P. Knurled Handle, Box Joint Side Cutting Plier. | List Price..... | \$2.50 |
| 1 No. 30, 8" N. P. Knurled Handle, Box Joint, Side Cutting Plier. | List Price..... | 3.70 |
| 1 No. 40, 6" N. P. Knurled Handle, Lap Joint, Side Cutting Plier. | List Price..... | 1.75 |
| 1 No. 40, 8" N. P. Knurled Handle, Lap Joint, Side Cutting Plier. | List Price..... | 2.25 |
| 1 No. 500, Polished Head, Black Handle, Beveled Head, Lap Joint, Side Cutting Plier. | List Price..... | 2.25 |
| 1 No. 500, 8" Polished Head, Black Handle, Beveled Head, Lap Joint, Side Cutting Plier. | List Price..... | 3.20 |
| 1 No. 5, 6" N. P. Knurled Handle, Slip Joint, Combination Plier. | List Price..... | 1.25 |
| 1 No. 5, 8" N. P. Knurled Handle, Slip Joint, Combination Plier. | List Price..... | 1.60 |
| 1 No. 89, 6" Combined Plier and Wire Cutter. | List Price..... | 1.00 |
| 1 No. 89, 8" Combined Plier and Wire Cutter. | List Price..... | 1.25 |
| 1 No. 74, 6" Lap Joint, End Cutting Nipper. | List Price..... | 1.75 |
| 1 No. 70, 7" Combination Plier with combined side-cutting buttons, burners, handles, and screw driver and reamer points. | List Price..... | 2.25 |
| Pexto Plier Assortment with Twelve Pliers. | List Price..... | \$24.75 |

POCKET SNIPS



Drop forged steel with polished blades and blued handles. Carefully tempered and ground.

- No. 82—Length of cut, 2". Length over all, 7".
List Price \$1.35

PEXTO SNIP ASSORTMENT

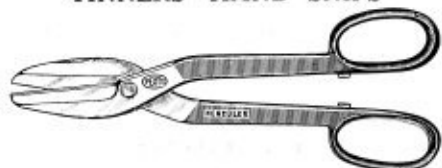
With 6 Snips



A handsome colored lithographed metal easel with hooks for six Snips. Makes an attractive display on the counter or wall. Size of table stand, 19" x 23". Assortment consists of:

- | | | |
|---|-----------------|----------------|
| 1 No. 9, 3" Blade Tinner's Hand Snips.. | List Price..... | \$4.00 |
| 1 No. C-9, 3" Curved Blade Tinner's Hand Snips. | List Price..... | 6.00 |
| 1 No. 49, 3" Blade Hand Snips. | List Price..... | 3.00 |
| 1 No. 149, 3" Beveled Blade Tinner's Hand Snips. | List Price..... | 3.50 |
| 1 No. 180, 3" Blade Shear, for cutting scrolls and circles. | List Price..... | 3.75 |
| 1 No. 82, 2" Blade Pocket Snips. | List Price..... | 1.35 |
| Pexto Snip Assortment. | List Price..... | \$21.60 |

TINNERS' HAND SNIPS



Straight Blade—Pexto No. 9

Best quality drop forgings, carefully tempered and ground.

- No. 9—Length of cut, 3". Length over all, 12".
Will cut iron gauge No. 27. List Price.....\$4.00

TINNERS' CIRCULAR HAND SNIPS



Pexto No. C-9

Best quality drop forged steel, carefully tempered and ground. Made with curved blade.

- No. C-9—Length of cut, 3". Length over all, 12".
No. C-9—Length of cut, 3". Length over all, 12".
Will cut iron gauge No. 27. List Price.....\$6.00

TINNERS' HAND SNIPS



Pexto No. 49

Drop forged, high grade steel, carefully tempered and ground. An excellent medium-priced shear.

No. 49—Length of cut, 3". Length over all, 12 3/4".

Will cut iron gauge No. 27. List Price.....\$3.00

BEVELED BLADE CIRCULAR SHEARS



Pexto No. C-149

Made with curved blades, beveled, for use where much curved cutting is to be done. High quality drop forged steel, ground and tempered.

No. C-149—Length of cut, 3". Length over all,

12 3/4". Will cut iron gauge No. 27. List Price, \$3.50

SCROLL CUTTING SHEARS



Pexto No. 180

Intended for easy cutting of scrolls, circles, etc. Made with rounded, sharp pointed, blades.

No. 180—Length of cut, 3". Length over all, 13".

List Price\$3.75

ROD CUTTERS

B-M Nos. 1 and 2



For cutting iron, steel, brass, and copper rods. Insures a sharp, clean cut, leaving severed ends in perfect condition for threading without filing or dressing. Strongly made of best quality malleable iron, with specially tempered tool steel blade.

No. 1 Rod Cutter cuts from 1/8" to 3/8" rods.

Weight, 10 lbs. List Price.....\$10.00

No. 2 Rod Cutter cuts from 3/8" to 5/8" rods.

Weight, 45 lbs. List Price..... 22.00

NUT AND BOLT CUTTER



Type N

The Carolus nut and bolt clipper is the most powerful cutter on the market. Finely tempered steel jaws, rigidly clamped between drop forge steel points with long leverage handles enable it to cut easily and quickly. It is furnished with choice of three types of cutting jaw, as illustrated; the straight cut, straight and end cut, and straight end cut with nut splitter. If for any reason due to misuse jaws are injured, they can be replaced at a nominal expense.



Type A



Type B

Straight Cut—Type A

No.	List Price	No.	List Price
10-A or 3/16"	\$2.75	1-A or 3/8"	\$5.00
14-A or 1/4"	3.00	2-A or 1/2"	7.00
0-A or 3/8"	3.75	3-A or 5/8"	9.00

Straight and End Cut—Type B

No.	List Price	No.	List Price
10-B or 3/16"	\$3.75	1-B or 3/8"	\$6.00
14-B or 1/4"	4.00	2-B or 1/2"	8.00
0-B or 3/8"	4.75	3-B or 5/8"	10.00

Straight and End Cut with Nut Splitter—Type N.

No.	List Price	No.	List Price
0-N or 3/16"	\$5.75	2-N or 1/2"	\$9.00
1-N or 3/8"	7.00		

GLASS CUTTER



Millers Falls No. 7

A well made iron handle Glass Cutter, with special cutting wheel. Handle red finished. Cutter head polished.

No. 7 Glass Cutter. List Price, Each.....\$.25

CIRCULAR GLASS CUTTER

Millers Falls No. 301



Particularly useful for cutting lenses, etc., or may be used as ordinary glass cutter, as cutter tool is removable. Will cut circulars from 2" to 24" in diameter and is equipped with graduated steel bar.

All metal parts nickel plated. Cutter handle mahogany finish.

No. 301 Circular Glass Cutter. List Price, Each, \$1.50

FILES

We carry a complete stock of every style and size File. List Prices quoted below are per dozen Files less handle. Files are classified as to roughness of cut as follows: Mill Smooth—the Smoothest File; Second Cut—Medium Smooth File; Bastard Cut—a Coarse Cut File.

LIST PRICE, PER DOZEN



Length, inches	4	5	6	7	8	9	10	11	12	13	14	16	18	20
Flat Bastard	\$3.70	\$3.90	\$4.30	\$4.80	\$5.30	\$6.30	\$7.00	\$8.60	\$ 9.70	\$11.80	\$13.30	\$17.80	\$23.90	\$31.50
Flat Second Cut	4.30	4.60	4.80	5.50	6.10	7.20	8.10	11.00	12.30	15.30	20.10	26.80	35.30	
Flat Smooth	4.70	4.90	5.30	6.10	6.60	7.90	8.70	12.10	13.50	16.70	22.30	29.20	38.30	



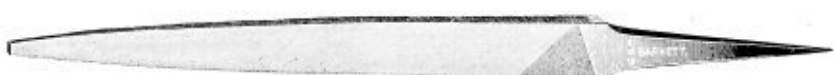
Length, inches	4	5	6	7	8	9	10	11	12	13	14	16	18	20
Hand Bastard	\$3.70	\$3.90	\$4.30	\$4.90	\$5.40	\$6.70	\$7.50	10.70	12.30	15.00	\$20.10	\$26.80	\$35.10	
Hand Second Cut	4.30	4.70	5.10	5.80	6.30	7.80	8.70	12.30	13.50	17.00	22.80	29.90	39.20	
Hand Smooth	4.80	5.30	5.60	6.30	6.70	8.30	9.40	13.50	15.00	18.20	24.20	31.50	41.60	



Length, inches	4	5	6	7	8	9	10	12	14	16	18		
Mill Bastard	\$3.00	\$3.20	\$3.50	\$3.90	\$4.30	\$4.90	\$5.60	\$7.50	\$10.70	\$14.70	\$20.20		
Mill Second Cut			4.00	4.60	4.90	5.80	6.40	8.60	12.20	16.80			
Mill Smooth			4.50	4.90	5.40	6.30	7.00	9.40	13.10	17.90			



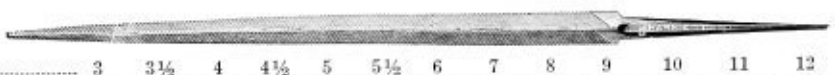
Length, inches	4	5	6	7	8	9	10	12	14	16		
Pillar Bastard	\$3.70	\$3.90	\$4.30	\$5.40	\$6.30	\$7.50	\$10.70	\$15.00	\$20.10	\$22.80		
Pillar Second Cut	4.30	4.70	5.10	6.30	8.70	12.30	17.00	22.80				
Pillar Smooth	4.80	5.60	6.70	9.40	13.50	18.20	24.20					



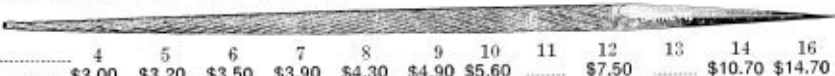
Length, inches	4	5	6	8	10	12	14		
Warding Bastard	\$4.00	\$4.50	\$4.90	\$6.40	\$ 8.70	\$12.30	\$17.00		
Warding Second Cut	4.80	5.30	5.90	7.50	10.10	14.30	19.40		
Warding Smooth	5.40	5.80	6.40	8.20	11.00	15.40	21.00		



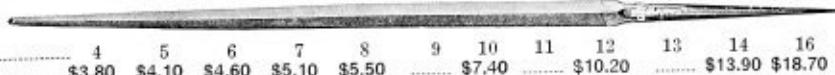
Length, inches	4	5	6	7	8	9	10	11	12	13	14	16	18	20
Half Round Bastard	\$4.80	\$5.40	\$6.10	\$7.00	\$7.50	\$9.10	\$11.80	\$15.50	\$20.60	\$27.50	\$36.20			
Half Round Sec'd Cut	5.60	6.10	6.70	7.70	8.30	10.10	13.00	17.00	22.50	29.90	39.40			
Half Round Smooth	6.10	6.40	7.10	8.20	8.90	10.70	13.90	18.30	24.20	32.00	42.30			



Length, inches	3	3½	4	4½	5	5½	6	7	8	9	10	11	12	13	14
Taper Single Cut	\$2.10	\$2.10	\$2.20	\$2.40	\$2.60	\$3.00	\$3.40	\$4.30	\$5.40	\$6.60	\$8.10	\$10.70	\$12.50	\$15.90	\$18.20
Taper Double Cut	2.50	2.50	2.90	3.10	3.50	4.00	4.70	5.60	6.70	8.10	9.70	12.10	14.70	17.50	20.60
Slim Taper, Single Cut	2.10	2.10	2.20	2.30	2.50	2.90	3.10	3.80	4.50	5.40	6.40	8.30	9.50	12.10	13.80
Slim Taper, Double Cut	2.50	2.50	2.60	3.00	3.20	3.50	3.90	4.50	5.30	6.30	7.50	9.10	11.00	13.10	15.40



Length, inches	4	5	6	7	8	9	10	11	12	13	14	16	18	20
Round Bastard	\$3.00	\$3.20	\$3.50	\$3.90	\$4.30	\$4.90	\$5.60	\$7.50	\$10.70	\$14.70	\$20.20	\$27.40		
Round Second Cut	3.50	3.80	4.00	4.60	4.90	5.80	6.40	8.60	12.20	16.80	22.70	30.70		
Round Smooth	3.90	4.10	4.50	4.90	5.40	6.30	7.00	9.40	13.10	17.90	24.30	32.90		



Length, inches	4	5	6	7	8	9	10	11	12	13	14	16	18	20
Square Bastard	\$3.80	\$4.10	\$4.60	\$5.10	\$5.50	\$7.40	\$10.20	\$11.50	\$13.90	\$18.70	\$25.10	\$32.80		
Square Second Cut	4.60	4.80	5.10	5.80	6.30	8.50	11.50	12.80	16.10	21.20	28.20	36.70		
Square Smooth	4.90	5.30	5.50	6.30	7.00	9.10	12.80	17.50	23.30	30.40	39.30			

FILE HANDLES



Natural wood finish. Strong, fine-grained hardwood, with brass ferrule.

No. 1. Small size for files up to 8".

List Price, per doz.....\$.45

No. 2. Large size for large files.

List Price, per doz......55

FILE CLEANER

Or File Card



Made with thick, hardened wire bristles, firmly secured to wooden base.

File Cleaner. List Price, Each.....\$.30

EMERY CLOTH

In Rolls



Length, 50 yards. No. 3/0 is smoothest; No. 4 1/2 is coarsest.

No.	3/0	2/0	Per Roll	0	1/2	1	1 1/2
Width							
1/2"	\$1.66	\$1.66	\$1.66	\$1.74	\$1.80	\$1.90	
1"	2.96	2.96	2.96	2.94	3.14	3.30	
1 1/2"	3.84	3.84	3.84	4.11	4.40	4.64	
2"	5.08	5.08	5.08	5.27	5.63	5.98	
No.	2	2 1/2	3	3 1/2	4		
Width							
1/2"	\$2.00	\$2.16	\$2.25	\$2.42	\$2.60		
1"	3.50	3.66	3.93	4.20	4.64		
1 1/2"	4.91	5.27	5.63	6.08	6.72		
2"	6.34	6.88	7.42	7.85	9.76		

SAND PAPER

In Sheets



Size 9" x 11". Packed 24 sheets (1 quire) in package; 480 sheets in ream.

Smoothest, 4/0.

Coarsest, No. 4.

No.	List Price Per Sheet	No.	List Price Per Sheet
4/0	\$.02	2	\$.02 1/2
3/0	.02	2 1/2	.03
2/0	.02	3	.03 1/2
1/2	.02	3 1/2	.04
1	.02	4	.05
1 1/2	.02 1/2		

NOTE.—We recommend the purchase of not less than one quire (24 sheets) and allow special discount on quantity.

EMERY CLOTH

In Sheets



Size 9" x 11". Packed 24 sheets (1 quire) in package; 480 sheets to ream. No. 3/0 is smoothest; No. 4 is coarsest.

No.	List Price Per Sheet	No.	List Price Per Sheet
3/0	\$.12	2	\$.14
0/0	.12	2 1/2	.15
0	.12	3	.16
1/2	.12	3 1/2	.17
1	.13	4	.20
1 1/2	.13		

NOTE.—We recommend the purchase of not less than one quire (24 sheets) and allow special discount on quantity.

CARBORUNDUM SHARPENING STONES

Double Faced



Double faced, i. e., one face coarse grit, one face very fine grit. Coarse side for sharpening tool edge, fine side for finishing up.

No. 108. 8" x 2" x 1". List Price, Each.....\$2.35

No. 109. 6" x 2" x 1". List Price, Each.....3.00

No. 112. 4" x 1 3/4" x 5/8". List Price, Each.....1.35

CARBORUNDUM SHARPENING STONES



Unequaled for rapid cutting. Nos. 130 and 136 are fine grit.

No. 130. 6" x 1 1/2" x 1/2". List Price, Each.....\$1.00

No. 136. 5" x 2" x 5/8". List Price, Each.....1.35

CARBORUNDUM SLIP STONES



Made with two rounded edges and tapered thickness. Fine grit only.

No. 177. 4 1/2" long x 1 3/4" wide. Tapers from 1/4" to 1/8" thickness. List Price, Each.....\$1.00

Garage and Shop Equipment

EVERY DEVICE THAT HAS PROVEN ITS
VALUE IN TIME AND MONEY SAVING

LATHES, DRILL PRESSES,
ARBOR AND BUSHING PRESSES,
ENGINE STANDS, HOISTS, FORGES, WELDING
APPARATUS, VALVE TOOLS, STORAGE
BATTERY STATION EQUIPMENT,
VULCANIZING OUTFITS.

EVERYTHING FOR THE REPAIR SHOP

Lack of space prevents our showing our full line.
If you do not see exactly what you want, your
inquiry will bring full information and price.

SPECIAL FORD REPAIR SHOP EQUIPMENT

REMEMBER

We are the Only EXCLUSIVELY
Wholesale House Within
350 Miles.

WE DON'T SELL YOUR CUSTOMERS



FORD REPAIR SHOP EQUIPMENT



EVERY DEVICE
AND TOOL

FOR THE UP-TO-DATE



FORD REPAIR SHOP

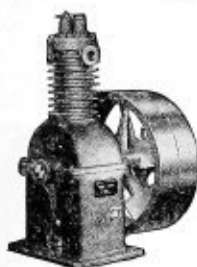
**Burning-in-Stands, Engine Stands, Cylinder
Reboring Tools, Special Reamers, etc.**

**EVERY DEVICE WE HANDLE IS GUARANTEED
TO INCREASE YOUR LABOR EFFICIENCY**

**"AT YOUR SERVICE
TO INCREASE YOUR PROFITS"**

CURTIS GARAGE AIR COMPRESSORS

"CURTIS AIR—FREE FROM OIL"



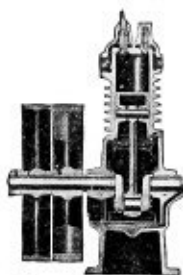
PURE AIR for your customer means good service, because oil ruins tires, and AIR FREE FROM OIL means fewer blowouts—fewer punctures—greater tire mileage—less repairs; saves them many dollars up-keep every month.

A Few Curtis Exclusive Features

1. Controlled Splash Self-Oiling System, with cylinder oiling of the control-

led splash permanently regulated. Result, no oil gets into the tires to rot them and the compressor will run ten to fifteen times as long on the same amount of oil as any other splash oiling compressor; one-tenth as much oil used, one-tenth as much attention required.

2. High and Low Level Oil Filling Gauge, so you can tell at a glance the amount of oil in the crank case.
3. Fan Fly Wheel assists in cooling the cylinder.
4. Valves of light weight and large area, inspectable without removing head.
5. Safety Cage prevents possibility of broken valves dropping and wrecking the machine.
6. Hand Unloader permits starting against full tank pressure without burning out motor, blowing fuses, burning or jumping of belt.
7. Large Drop-Forged Crank Shaft. Adjustable, Renewable, die cast non-cutting bearings.
8. Head Removable without breaking pipe connections. Only one gasket.



* The No. 4 is the most popular size for garage service, and the No. 2, the next most popular. See data below.

Size	1	2	3	4	5
Bore and Stroke...	1 1/2 x 2	2 1/2 x 2 1/2	2 1/2 x 3	3 x 2 1/2	4 1/2 x 4 1/2
Minimum Speed...	500	400	350	300	250
Cu. Ft. Displacement	1.2	1.8	2.99	4.32	10.4
H. P. at 100 lbs.	.24	.36	.60	.87	2.09
H. P. at 200 lbs.	.47	.78	1.14	2.75	
Usual Size Motor, H.P.	1/4	1/2	3/4	1	3
Maximum Speed...	700	600	550	500	400
Cu. Ft. Displacement	1.68	2.70	4.7	7.20	16.5
H. P. at 100 lbs.	.34	.54	.95	1.45	3.34
Size Pulley	9 x 1 1/2	11 x 2 1/2	12 x 2 1/2	14 x 2 1/2	22 x 4 1/2
Shipping Weight	40	60	100	120	385
With Tight P. only	\$34.20	\$37.80	\$47.70	\$59.40	\$108.00
With T. & L. Pulley	37.80	41.40	51.30	64.00	126.00
Air Pres. Unloader instead of Hand Unloader, add extra		16.20	16.20	16.20	19.80

How to Determine which Size is Best Suited for You
For garages up to 15 cars, small vulcanizing plants, or small supply stores, use the No. 1. For garages of 15 to 35 cars, medium size vulcanizing plants and supply stores, No. 2. For garages of 35 to 60 cars, large vulcanizing plants, or large supply stores, No. 3. For the average public garage of 60 to 100 cars or for service stations, No. 4. For garages over 100 cars or very large service stations, No. 5.

* Popular size garage outfits.

STYLE "S" SIMPLE OUTFITS

These outfits are complete, including air compressors with hand unloader, and tight pulley only; (see extra if loose pulley is wanted) also steel pressure tank, air gauge, drain cock, outlet cock from tank with 20 feet of hose with tire chuck, and piping complete between the compressor and tank, as illustrated.



Style and No.	Size of Compressor	Size of Pipe	Size of Tank	Cap. in Gals.	Price Complete Outfit as Above	EX-TRAS Loose Pulley	Shipping Wt. Lbs.
S-1	1 1/2 x 2	1 1/2	12x36	17.2	\$76.60	\$3.60	75
S-2	2 1/2 x 2 1/2	2	12x36	17.2	82.30	3.60	129
S-3	2 1/2 x 3	3	14x48	32.1	109.20	3.60	189
*S-4	3 x 3 1/2	3 1/2	16x60	52.5	117.90	3.60	249
S-5	4 1/2 x 4 1/2	4 1/2	20x60	82.5	201.00	18.00	565

SEPARATE STEEL AIR TANKS ONLY

Price includes pop safety valve, air gauge and drain cock. Compressor and piping not included.

Size of Tank	Cap. in Gals.	Extras			
		For 150 lbs. Working Air Pres.		Piping bet. Comp. and Tank, Price	Piping from tank to Comp'r for Unloader
		Wt	List		
12x36	17.2	60	\$23.40	\$3.60	\$2.70
14x48	32.1	77	27.00	5.40	3.15
16x60	52.5	117	39.60	5.40	3.15
20x60	82.5	176	57.60	7.20	5.40

STYLE "Y" PRIVATE GARAGE OUTFIT

Style Y-1-A Portable Outfit illustrated opposite includes 1 1/2 x 2" compressor, fan fly wheel, with internal gear, 1/4 H. P. Motor, either A. C. or D. C. as desired, expansion chamber with piping from same to compressor, combination snap switch and drain cock, 20' of electric cord and plug, 15' of best grade pump tubing with tire chuck and air gauge, combination push bar handle and hose rack all mounted on hardwood base running on large diameter wheels.

Price.....\$130.00

Y-1-B Stationary Outfit, same as above, but no push bar handle, no electric cord, nor wheels, but includes compressor, motor, expansion chamber, switch, hose and base as above. Price \$125.00

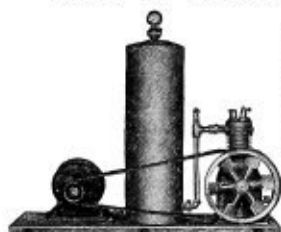


ALL PRICES SUBJECT TO DISCOUNT.

CURTIS GARAGE AIR COMPRESSORS

"CURTIS AIR—FREE FROM OIL"

STYLE "Z" STATIONARY OUTFITS



Price includes compressor, tank and motor of size specified, piping between compressor and tank, including shut-off cock, air gauge, pop safety valve and drain cock, single leather drive belt, mounted on oak base, as illustrated. Belted only.

Style and No.	Size Compressor	Compressor Speed	Cubic ft. Displacement	Maximum Pressure lbs.	Motor H. P.	Size Tank, In.	Time required to fill Tank from 0 to 150 lbs.
Z-1-A	1½x2	600	1.35	150	1/4	12x36	28 min.
*Z-2-A	2½x2½	500	2.47	150	1/2	12x36	15 min.
Z-3-A	2½x3	450	3.84	150	3/4	14x48	19 min.
*Z-4-A	3 x 3½	400	5.8	150	1	14x48	14 min.
Z-4-B	3 x 3½	400	5.8	150	1	16x60	23 min.
Z-5	4½x4½	325	13.2	150	3	16x60	8 min.
Z-5-A	4½x4½	325	13.2	150	3	20x60	13 min.

*Sub-letter indicates change in size of tank only.

PRICE BELTED ONLY

Style and No.	No Motor, no Belt nor Motor Pul'y	Complete with Motor					Extra for Auto'tic Starting and Stopping Device
		D. C.		A. C.	A. C.	Wt.	
		110-220	60 cye. 2or3Ph. 110-220	60 cye. 2or3Ph. 110-220	60 cye. 2or3Ph. 110-220		
	Price	Wt.					
Z-1-A	\$77.40	155	\$144.00	\$172.80	\$172.80	265	\$40.00
*Z-2-A	86.40	185	194.40	212.40	194.40	315	40.00
Z-3-A	99.00	280	216.00	271.80	221.40	440	75.00
*Z-4-A	102.60	305	252.00	282.60	232.20	490	75.00
Z-4-B	115.20	485	264.00	295.20	244.80	570	75.00
Z-5	169.20	645	468.00	507.60	361.80	920	90.00
Z-5-A	187.20	745	486.00	525.60	379.80	1020	90.00

STYLE "V" STATIONARY OUTFIT

Outfit includes compressor, motor and tank, leather belt or cut gear and raw hide pinion as desired, also 15 feet of hose with tire chuck.

For capacity use table of Style "X" at top of next column.



Style and No.	Size Com.	Motor H. P.	Size Tank, In.	No Motor, no Starter, no Pinion, nor Belt	Complete, with Motor				Ex for Auto-matic Starting and Stopping Device
					D. C. 110-220	A. C. 60 Cye. 110-220	A. C. 60 Cye. 2or3Ph. 110-220	W.P.M.	
*V-1a	1½x2	1/4	12x36	\$103.80	\$175.80	\$195.60	\$195.60	315	\$40.00
*V-2a	2½x2½	1/2	12x36	116.40	260	217.20	235.20	385	40.00
V-3a	2½x3	3/4	12x36	120.40	270	228.40	284.20	395	75.00
V-4	3 x 3½	1	12x36	122.60	450	281.00	311.60	385	75.00
V-5	4½x4½	3	14x48	234.60	785	483.00	522.60	400.20	1105 90.00

*Popular size garage outfits.

STYLE "X" PORTABLE OUTFITS

Include compressor, motor and tank of sizes listed, single leather drive belt or cut fly wheel gear and rawhide pinion as desired. Piping between compressor and tank, 15 feet of hose with tire chuck, 20 feet of cord with plug and switch. Outfit mounted on wheels.



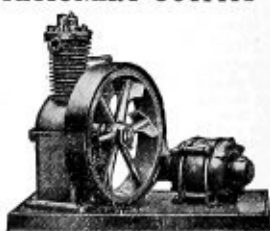
Style and No.	Size Compressor	Compressor Speed	Cubic ft. Displacement	Maximum Pressure lbs.	Motor H. P.	Size Tank, In.	Time required to fill Tank from 0 to 150 lbs.
*X-1-A	1½x2	600	1.35	150	1/4	12x36	28 min.
*X-2-A	2½x2½	500	2.47	150	1/2	12x36	15 min.
X-3-A	2½x3	450	3.84	150	3/4	12x36	10 min.
X-4	3 x 3½	400	5.8	150	1	12x36	8 min.
X-5	4½x4½	325	13.2	150	3	14x48	5 min.

PRICE BELTED OR GEARED

Style and No.	No Motor, no Starter, no Pinion, nor Belt	Complete with Motor					Extra for Auto 'tic Starting and Stopping Device
		D. C. 110-220	A. C. 60 cye.	A. C. 60 cye.	Wt.	Wt.	
			Sg. Ph. 110-220	2or3Ph. 110-220			
	Price	Wt.					
*X-1-A	\$118.80	240	\$190.80	\$210.60	\$210.60	315	\$40.00
*X-2-A	131.40	260	232.20	250.20	232.20	385	40.00
X-3-A	140.40	270	248.40	304.20	271.80	395	75.00
X-4	147.60	250	306.00	336.60	286.20	585	75.00
X-5	264.60	785	513.00	552.60	430.20	1105	90.00

STYLE "W" STATIONARY OUTFITS

Outfit includes compressor and motor of size listed, single leather drive belt or cut fly wheel gear and raw hide pinion as desired; all mounted on cast iron base as illustrated opposite; no tank.



Style and No.	Size Compressor	Compressor Speed	Cubic Ft. Displacement	Maximum Pressure	Motor H. P.
W-1	1½x2	600	1.35	150 lbs.	1/4
W-2	2½x2½	500	2.47	150 lbs.	1/2
W-3	2½x3	450	3.84	150 lbs.	3/4
*W-4	3 x 3½	400	5.8	150 lbs.	1
W-5	4½x4½	325	13.2	150 lbs.	3

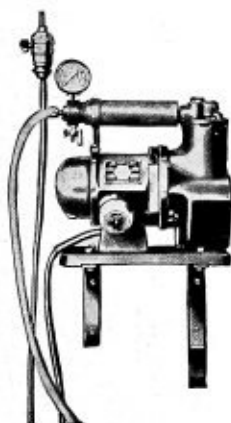
PRICE BELTED OR GEARED

Style and No.	No Motor, no Starter, no Pinion, nor Belt		Complete with Motor					Extra for Auto 'tic Starting and Stopping Device
			D. C. 110-220	A. C. 60 cye. 110-220	A. C. 60 cye. 2or3Ph. 110-220	Wt.		
	Price	Wt.		Sg. Ph.	110-220	110-220		
W-1	\$57.60	125	\$129.60	\$149.40	\$149.40	200	\$40.00	
W-2	68.40	145	171.00	189.00	189.00	275	40.00	
W-3	79.20	180	189.00	243.00	210.60	340	75.00	
*W-4	86.40	235	244.80	275.40	225.00	440	75.00	
W-5	153.00	555	415.80	455.40	336.60	875	90.00	

ALL PRICES SUBJECT TO DISCOUNT

BLACK & DECKER No. 2 LECTROFLATER**Electric Air Compressors****"Universal in Use and Adaptability"**

These outfits are complete in every detail and ready to run as soon as uncured. The Motors and Compressors are identical on these three outfits, the only difference being in the style of carriage, mounting, etc. Motor—General Electric, $\frac{1}{2}$ horsepower, special design for B. & D. Air Compressors. Operate on D. C. or A. C. up to 60 cycle. Very compact design, as motor, gear train and compressor are assembled in one housing. Motor and compressor are cooled by forced circulation of air through this housing and may be run continually without overheating. As motor gears and compressor are grease lubricated throughout, it is only necessary to pack with grease four times a year. Air capacity, 2 cubic feet per minute, which is equivalent to inflating a 34 x 4 tire from zero to 70 pounds pressure in $1\frac{3}{4}$ minutes.

No. 2 BLACK & DECKER WALL LECTROFLATER

Complete as described above and equipped with wall brackets for convenient mounting on pillar or wall wherever most convenient. Several of these units are frequently used in large garages, factories, or service stations mounted in different places, thus eliminating any possibility of waste and leakage and elaborate piping systems.

Equipment—Complete with switch, 15 ft. Duplex electric cable, separable attachment plug, large accurate pressure gauge, 20 ft. of heavy duty air hose, tire connector and substantial wall brackets.

Net weight, 48 lbs. Shipping weight, 64 lbs. Size, boxed, 19 x 11 x 17 inches.

No. 2 Black and Decker Wall Lectroflator, 110 Volt, A. C. or D. C. List Price \$104.50

No. 2 BLACK & DECKER CARRIAGE LECTROFLATER

This outfit is the same as the No. 2 Wall Lectroflator, except that instead of being mounted on wall brackets it is mounted on sturdy, three-wheel, solid rubber tire carriage. Carriage is complete with a tray for tools. This outfit is specially recommended for small public garages where a low-priced, dependable, outfit is needed.

Equipment includes 15 ft. Duplex electric cable, separable attachment plug, large accurate pressure gauge, 20 ft. of heavy duty air hose and tire connector.

Net weight, 95 lbs. Shipping weight, 140 lbs. Size, crated, 31 x 19 x 19 inches.

No. 2 Black & Decker Carriage Lectroflator, 110 Volt, A. C. or D. C. List Price \$121.00

BLACK & DECKER PORTABLE TANK LECTROFLATOR

This outfit consists of the same Motor and Compressor as used on the other two Black & Decker outfits listed on this page, but is mounted on a strong three-wheel carriage and includes an extra heavy steel air tank, size 24 x 30 inches. Capacity of tank sufficient to inflate five average tires from zero to full pressure. Carriage is evenly balanced for easy moving and equipped with convenient handle with hooks for coiled cable and hose.

Equipment includes safety valve, accurate pressure gauge; all piping and wiring, ready for operation; 15 ft. Duplex electric cable with switch, separable attachment plug, 25 ft. of heavy duty air hose, and tire connector.

Net weight, 145 lbs. Shipping weight, 245 lbs. Size, crated, 24 x 36 x 28 inches.

No. 2 Black & Decker Portable Tank Lectroflator Outfit, 110 Volt, A. C. or D. C. List Price \$214.50



WILL BE SUPPLIED FOR 220-VOLT OR 32-VOLT CIRCUITS AT \$4.40 LIST ADDITIONAL

BLACK & DECKER

ELECTRIC AIR COMPRESSORS

No. 46 and 412

No. 46 Delivers 6 cubic feet of free air per minute. Maximum pressure 200 lbs.

No. 412 Delivers 12 cubic feet of free air per minute. Maximum pressure 75 lbs.

The solution of the pneumatic truck tire problem. For heavy service in the large garage and service station, and for large volume air service in factories for operating air driven tools, machinery blowing, flame work, paint spraying and a host of other applications.

No. 46

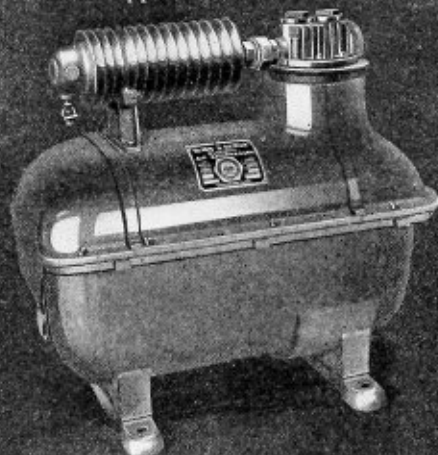
Price

\$330.

F. O. B.

Baltimore, Md.

U. S. A.



No. 412

Price

\$330.

F. O. B.

Baltimore, Md.,

U. S. A.

A unit electric air compressor noted for the heavy and continuous service it is capable of giving.

Air cooled—positive and foolproof patented cooling system. No water to freeze up or evaporate. Ready to run at a throw of the switch—summer or winter.

Grease lubricated. Requires minimum attention to lubrication. No oil cups to refill frequently nor any oil level to maintain.

Two horsepower motor.

Entire machine enclosed, protecting moving parts from dust and grit and maintaining perfect alignment.

Can be piped to inlet as well as outlet.

Supplied for Direct Current of 110 or 220 volts or 60 cycle Alternating Current of 220 volts, 2-phase or 3-phase.

In ordering be sure to specify which is desired, mentioning voltage, phase and frequency.

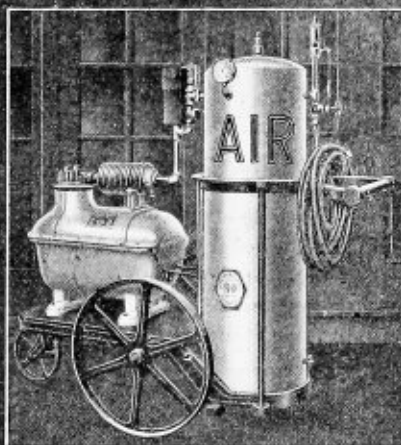
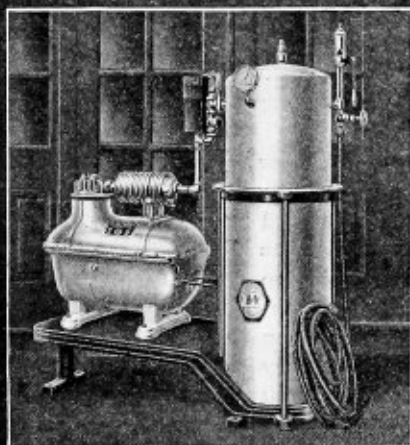
BLACK & DECKER

ELECTRIC COMPRESSORS

No. 46 6 cubic feet capacity. 200 lbs. pressure guaranteed.

No. 412 12 cubic feet capacity. 75 lbs. pressure guaranteed.

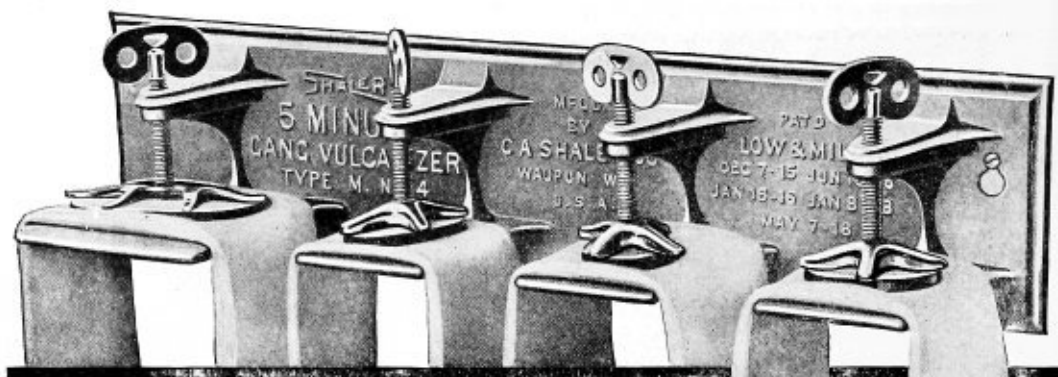
For 110 or 220 volt Direct Current, or 220 volt two or three phase 60 cycle Alternating Current as specified. Be sure to specify voltage, phase and frequency when ordering.



Stationary and Portable Automatic Tank Outfits

Either size Electric Compressor, as specified, complete with 42 gallon tank tested to 400 lbs. pressure, automatic pressure switch with automatic unloader (necessary to avoid overloading electric circuit when starting), safety valve, pressure gauge, air hose, tire connector, and all fittings, properly piped and wired, rigidly mounted on iron base having lugs for bolting down for Stationary Outfit. Portable Outfit is Stationary Outfit mounted on wheels and provided with handle so it can be wheeled about easily.

Stationary Automatic Tank Outfit.....	\$533.00
Portable Automatic Tank Outfit.....	550.00
Automatic Switch with Automatic Unloader.....	39.60
42 Gal. Tank, tested to 400 lbs. pressure.....	44.00
65 Gal. Tank, tested to 400 lbs. pressure.....	55.00

SHALER**5-MINUTE
GARAGE VULCANIZER****SHALER**

Garages and repair shops have demanded a large capacity tube vulcanizer that would use the convenient Shaler Patch-& Heat Units that have met with such phenomenal success during the past three years.

This Shaler Vulcanizer uses the standard sizes of Shaler Patches and in addition mends much larger cuts with the new four inch Ex-Long Patches. Makes four repairs at one time in five minutes. No reliable method of vulcanizing has ever approached this for speed and simplicity. Anybody in the shop can now vulcanize as well as an expert. Quick service, bigger profits. It will create enough new business, even in the shop where there is already a vulcanizing plant, to pay for itself quickly. It hangs on the wall, taking a space 5x20 inches.

The Shaler Patch-& Heat Unit is always ready for instant use day or night. No waiting, it never fails. It is a *complete unit* - a compact combination of chemical fuel, vulcanizing pan, and raw rubber patch. Simply clamp it over the puncture, light the non-flaming fuel, and in five minutes you have a permanent, feather-edged repair as strong as the tube itself.

This vulcanizer practically costs the repairman nothing, because with it are included 28 free patches, 12 round, 12 oblong, and 4 ex-long, enough to pay for the whole outfit if they bring only 25¢ each. Tire repairers usually get from 75¢ to \$1.00 for the larger repairs. It should easily pay for itself in the first two days. Weight 17 lbs.

Additional patches are supplied in garage quantities at a very moderate price making this vulcanizer very economical to use.

Type M, No. 4, Shaler 5-Minute Garage Vulcanizer.....\$10.00

**ROUND
PATCH**
1 3/4 INCH

**OBLONG
PATCH**
1 3/8 x 2 1/4 INCH

**EX-LONG
PATCH**
1 3/4 x 4 INCH



No. G6 Round Patch-& Heat Units, 1 3/4 inch, per package of 50.....\$3.00



No. G7 Oblong Patch-& Heat Units, 1 3/8 x 2 1/4 inch, per package of 50.....\$3.00



No. G8 Ex-Long Patch-& Heat Units, 1 3/4 x 4 inch, per package of 25.....\$2.50

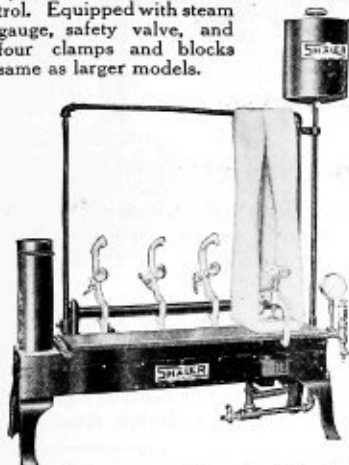
SHALER**VULCANIZERS for REPAIR SHOPS**

THE ACKNOWLEDGED STANDARD

STEAM TUBE PLANT.

This model is designed to do every kind of tube repairing. It cures four tubes at one time or single repairs up to two feet long.

Can be used either on floor or workbench as the 4 1/2 x 24" machined tube plate stands 9" high. Cost of operation less than 2¢ per hour. Steam is raised in fifteen minutes and maintained at proper pressure without regulating, by the Shaler automatic thermostat control. Equipped with steam gauge, safety valve, and four clamps and blocks same as larger models.

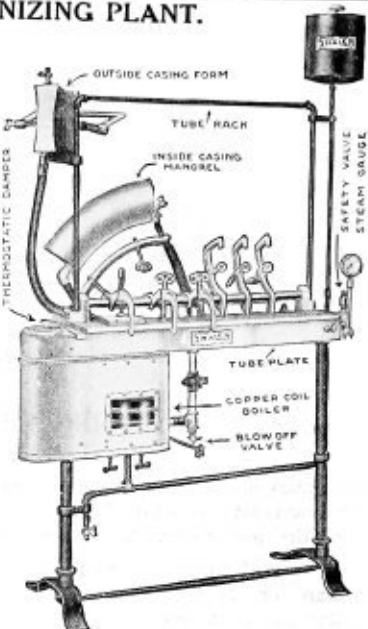


No other guaranteed steam vulcanizer at near the same price has so great a capacity, heats so quickly, or operates so simply. Gas or gasoline burner.

Type L No. 40, weight 75 lbs. \$35.00

STEAM VULCANIZING PLANT.

Covers all requirements of a garage or repair shop. Handles every practicable sort of tube and casing repairs, (about 200 tubes and a dozen casings daily). Machined tube plate, 4 1/2 x 30", cures six tubes as quickly as one and heats independently of casing attachment. Swivelled clamps insure even pressure to all parts of any tube repair. All sizes of casings repaired by wrapped tread method approved by tire manufacturers. Simply build up a re-enforcement of fabric inside the casing, and fill the hole with Para gum (it is unnecessary to cut away a lot of expensive rubber and fabric). The 14" inside casing mandrel, applies heat against the fabric; the outside casing form with one side shaped for tread repairs, the other for rim work, heats from the outside. A wrapping of tape and the Shaler clamping device force new and old material into contact under enormous pressure. No air bags. The repair becomes the strongest part of the tire. No attention is necessary after lighting burner. The boiler, a copper coil, raises steam in about twenty minutes and holds it at the right pressure indefinitely, a thermostat automatically regulating the flame of the burner. Steam gauge and thermometer indicate both pressure and temperature. Safety valve eliminates danger of explosion.



Type NPR No. 41—Complete Plant as shown, wt. 200 lbs. With 6 tube clamps and blocks, bead strips casing clamps, tape for wrapping treads, thermometer, steam gauge and safety valve. \$75.00

Type NPR No. 42—Same as above except has two sets of casing forms giving double capacity for casings. \$100.00

Weight 260 lbs.

Type N No. 41—Same as above but equipped for tube work only, ample heating capacity permits adding casing forms and changing into either of above models at moderate cost. Wt. 160 lbs. \$50.00

Gas or gasoline burner as ordered. If none specified, gasoline burner furnished.

COMPLETE ELECTRIC HEATED PLANT.**UNITS WHICH MAKE UP PLANT.**

Can be purchased and used separately.

TYPE A--Comb. Casing Form and Tube Plate

Corresponds with outside form of Type NPR, that is one face mends rim cuts, while the other fits large tread repairs. A flat surface mends one or two tubes at a time on an asbestos inlaid shelf that attaches to workbench. Temperature controlled automatically by a thermostat. No watching or regulating. Fits all sized tires and will mend cuts, etc., while tire is inflated on rim. Supplied with tube shelf, thermometer, conducting cord and full instructions. Weight 15 lbs.

Type A No. 61. Polished Nickel for A. C. and D. C. \$16.00

TYPE C--Inside Casing Form.

Corresponds with inside form on Type NPR. Used with Type A for making casing repairs by the wrapped tread method. Fits any sized tire. Supplied with tread tape, bench brackets, conducting cord and thermometer. Weight 16 lbs.

Type C No. 71. Thermostat Control, A. C. only. \$25.00

For rheostat controlled D. C. equipment add \$5 list

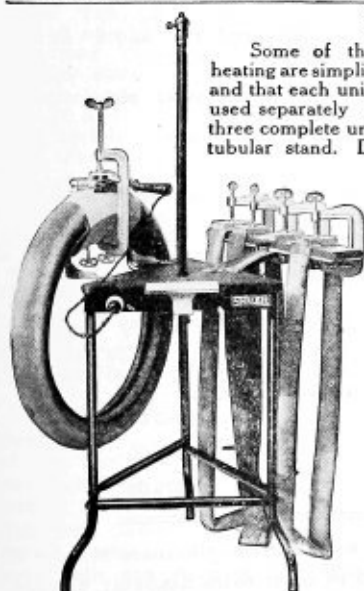
TYPE E--"Gang" or Multi-Tube Model

4 1/2 x 24" surface mends six tubes at once or a two foot slit at one setting. Furnished with four clamps and blocks for different sized repairs, conducting cord and two thermometers. Weight 40 lbs.

Type E No. 91. Thermostat Control, A. C. only. \$30.00

For rheostat controlled D. C. equipment add \$5 list.

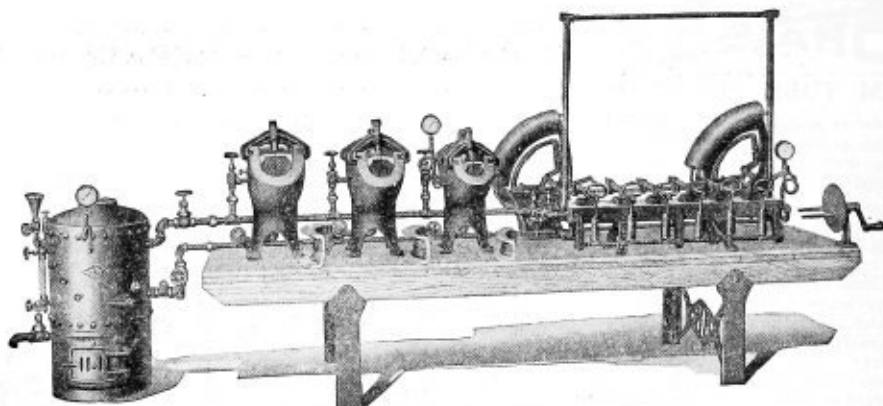
Some of the advantages of electric heating are simplicity, safety, quick-heating, and that each unit may be purchased and used separately. This plant consists of the three complete units mounted on a strong tubular stand. Does same perfect work and has same capacity as Type NPR No. 41. Inside casing form and tube plate may be heated separately. Outside casing form has 5 ft. conducting cord with plug which fits socket in stand or any other lamp socket for working elsewhere on inflated tire. Connects to city lighting current overhead out of the way. No special wiring needed as entire plant uses less current than a flatiron.



Type ACE No. 101 for A. C. Wt. 115 lbs. \$75.00

For rheostat controlled D. C. model add \$10.00 list.

AKRON-WILLIAMS TIRE REPAIR EQUIPMENT



Model "33-R" Complete Tire Repair Plant

Model "33-R" Akron-Williams Outfit

A complete tire repair plant for a one, two, or three-man shop. This outfit will produce a large amount of work and will vulcanize the repairs of three or four repair men. It will keep two men busy half the time vulcanizing the repairs made in the other half day. One man can turn out from \$60.00 to \$75.00 worth of repairs per 10-hour day. Two men should double this amount.

Will handle sectional repair work on fabric tires from 3" to 5½" diameter; cord tires from 3½" to 5" diameter. It will also handle both inside and outside sectional repair work and repairs on all sizes of tubes. Outfit is 12 ft. long assembled and is mounted together on wooden platform (excepting boiler) as shown in illustration. Steam generating boiler is special Universal Reliance type of tubular steel construction which may be equipped to burn natural or artificial gas, gasoline, or coal as preferred. In ordering specify which type of burner is desired.

OUTFIT CONSISTS OF THE FOLLOWING

- One No. 33 S. A. Sectional Vulcanizer, ½ circle for 3" or 3½" fabric tires and 3½" cord tires and one pair clincher and one pair straight side bead molds.
- One No. 33 S. B. Sectional Vulcanizer, ½ circle for 4" or 4½" fabric tires and 3½" or 4" cord tires, and one pair clincher and one pair straight side bead molds.
- One No. 33 S. C. Sectional Vulcanizer, ½ circle for 5" or 5½" fabric tires and 4½" and 5" cord tires, and one pair clincher and one pair straight side bead molds.
- One No. 33 T. V. 36 Tube Vulcanizer, 6 bar type, for separate steam connections; plate size, 8" x 36".
- One No. 33 I. P. A. Inside Patch Vulcanizer, ½ circle for 3" tires.
- One No. 33 I. P. B. Inside Patch Vulcanizer for 3½" and 4" tires.
- One No. 33 T. D. Tube Deflater Winds tube up on spindle, forcing out all air.

The above mounted and piped together on substantial wood platform with heavy iron legs.

One Universal Reliance Boiler.

LIST PRICES

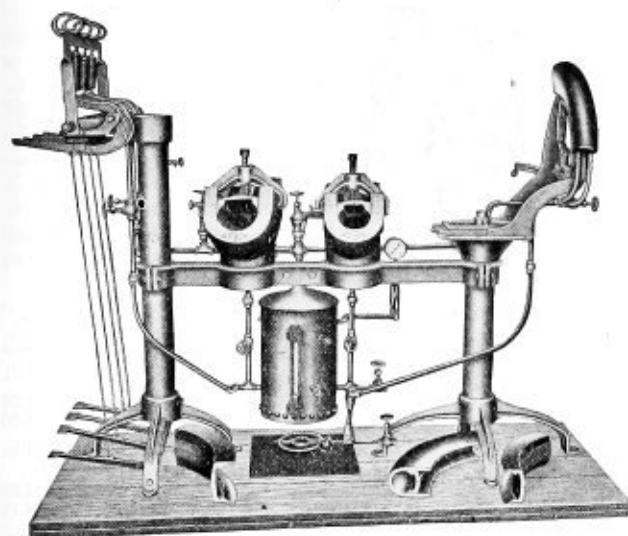
No. 33-R Outfit with Natural or Artificial Gas Burner and Automatic Gas and Steam Controlling Device.....	\$650.00
With Gasoline Burners and Force-Feed Gasoline System	668.00
For Coal and Coke Fuel.....	675.00

NOTE.—The price to cover any change from a Standard Model 33-R will be the difference in price of the Standard pieces of equipment and the substituted equipment, plus \$50.00 to cover extra assembly expense.

Shipping Weight Approximately 2000 Lbs.

AKRON-WILLIAMS TIRE REPAIR EQUIPMENTS

MODEL "33-C" OUTFIT



A complete small shop outfit which will turn out \$30.00 to \$45.00 worth of repairs per day and keep one or two men busy. Will handle from three to 5½" fabric tires and from 3½" to 5" cord tires; 4 tubes at a time and inside patch repairs on small tires. Easily operated—generates its own steam. Equipped with gasoline or natural or artificial gas burners. Tubular steel boiler with pressure gauge, water-proof gauge, safety valve, etc. Outfit includes the following:

1 No. 33 I. T. B. Inverted Type Tube Vulcanizer handling 4 tube repairs at one time.
1 No. 33 S. C. Sectional Vulcanizer 5½" fabric tires or 4½ and 5" cord tires with one pair clincher and one pair straight side bead molds.

1 No. 33 S. B. Sectional Vulcanizer ½ circle for 4 and 4½" fabric tires or 3½ and 4" cord tires with one pair clinchers and one pair straight side bead molds.

1 No. 33 R. S. B. Reducing Shelf for No. 33 S. B. Sectional Vulcanizer ½ circle for repairs on 3 and 3½" fabric or 3½" cord tires with one pair clinchers bead molds.

1 No. 33 I. P. A. Inside Patch Vulcanizer ½ circle for making repairs on 3" automobile tires.

Above outfit assembled and equipped with tubular steel boiler and necessary fittings ready for use.

LIST PRICES

Complete with Gasoline Burners.....	\$425.00
Complete with Gas Burners without Automatic Steam and Gas Controller.....	425.00
Complete with Gas Burners and Automatic Steam and Gas Controller.....	445.00
Shipping Weight 1250 lbs.	

MODEL "33-B" OUTFIT

A small outfit that will do as good work as any of the larger Outfits. One man can turn out from \$20.00 to \$35.00 worth of work a day. Will handle repairs on 3" and 5½" fabric tires and 3½" to 5" cord tires. Tube plate will vulcanize three tubes of one size at one time. Equipped with tubular steel boiler, piping connections, steam gauge, safety valve, water gauge, etc.

Outfit includes the following:

1 No. 33 S. C. Sectional Vulcanizer ½ circle for 5 and 5½" fabric tires or 4½ and 5" cord tires; with one pair clinchers and one pair straight side bead molds.

1 No. 33 S. B. Sectional Vulcanizer ½ circle for 4 and 4½" fabric tires or 3½ and 4" cord tires with one pair clinchers and one pair straight side bead molds.

1 No. 33 R. S. B. Reducing Shelf ½ circle for No. 33 S. B. Vulcanizer ½ circle for 3 and 3½" cord tires.

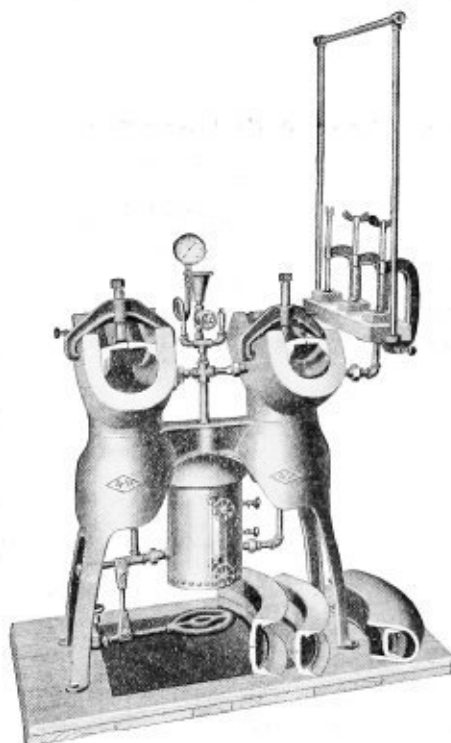
1 No. 33 T. V. 4½" clamp and tube vulcanizer. Plate size 4½"x22".

1 Tubular Steel Boiler and necessary fittings.

LIST PRICES

Complete with Gas Burners without steam and gas controller.....	\$320.00
Complete with Gasoline Burners and 2 gal. pressure tank.....	325.00
Complete with Gasoline Burners and 4 speed gasoline system.....	335.00
Complete with gas Burners and automatic steam and gas controller.....	340.00

Shipping Weight 925 lbs.



AKRON-WILLIAMS TIRE REPAIR EQUIPMENT

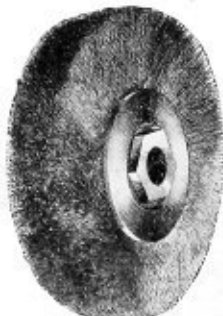
BUFFING STAND AND GRINDER



Constructed with extra long spindle and overhanging head making it especially convenient for rapid work. The long spindle brings the Buffing Wheel or Rasp in an easily accessible position. May be used with counter shaft or driven by 1 h. p. electric motor.

Buffing and Grinder Stand, Complete with	List Price	Shipping Weight
Counter shaft.....	\$60.00	250 lbs.
Pedestal Only.....	23.00	100 lbs.
Counter Shaft Only.....	10.00	65 lbs.
Head Only.....	26.00	85 lbs.

ECONOMY WIRE BUFFING BRUSH



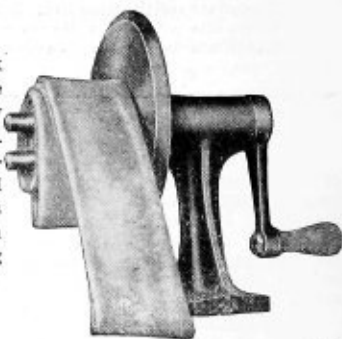
Very durable and long-lived. The best type of Rotary Buffing Brush for rapid, clean repair work. Extra Brush fillers can be supplied at any time. Brush consists of several layers or plys of wire clamped together by easily removable arbor or hub. Made in two sizes:

No. 54-C Brush. Diameter, 10"; width of face, 1 3/4"; size of arbor hole 1/2" to 1 1/2" diameter. Should be run at speed of 1800 to 2100 R. P. M. List Price.....	\$18.00
Extra Wire Fillers, List Price.....	5.50
No. 55-C Brush. Diameter, 8"; 1 1/4" base; arbor hole, 1/2" to 1 1/2" diameter. Should be run from 2100 to 2400 R. P. M. List Price.....	\$12.50
Extra Wire Fillers, List Price.....	4.75

NOTE:—In ordering be sure to specify size of arbor hole.

QUICK-ACTING TUBE DEFLATOR

A simple crank operated device which instantly rolls up the tube. In use in all repair shops. Small in size, requires but a minimum space. Shipping weight 20 lbs.



List Price, Each.....	\$4.50
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BENCH BRACKET AND TIRE LASTS



For outside casing repairs. The iron core of the last gives a firm support to build up and stitch down sectional repairs. Easily and quickly detachable from bench bracket as shown in illustration. Lasts are 1/2" circle. Made in the following sizes.

	List Price
No. 33 T. L. A. for 3" Tires	\$ 3.75
No. 33 T. L. B. for 3 1/2" and 4" Tires	5.50
No. 33 T. L. C. for 4 1/2" and 5" Tires	7.25
No. 33 T. L. 6 for 6" Truck Tires	10.00
No. 33 T. L. 7 for 7" Truck Tires	14.50
No. 33 T. L. 8 for 8" Truck Tires	20.00

ROTARY RASP



Will Rasp off an old tread in 10 to 15 minutes. Made with detachable band which can be returned to factory for sharpening at a slight cost. Rasp Bands sold with or without centers.

In ordering be sure to specify size of arbor hole.

Diameter, 7 1/4" width of face, 2 1/4"

Rotary Rasp Complete, List Price.....	\$15.00
Band Only for Rotary Rasp, List Price.....	12.00
Centers Only for Rotary Rasp, List Price.....	4.00

AKRON-WILLIAMS TIRE REPAIR TOOLS



Ball-Bearing—Flat Roller

2" x 2" roller.	List Price	\$2.25
1½" x 1½" roller.	List Price	1.75

Plain Bearing—Flat Roller

2" x 2" roller.	List Price	\$1.50
1½" x 1½" roller.	List Price	1.00



Concave Roller

Plain Bearing—2" x 2" roller.	List Price	\$2.00
Ball-Bearing —2" x 2" roller.	List Price	2.75



Smooth Stitchers

	Plain	Ball-Bearing
1/32" x 2 1/2" disc roller.....	\$1.25	\$1.80
1/16" x 2 1/2" disc roller.....	1.25	1.80
1/8" x 2 1/2" disc roller.....	1.20	1.75



Corrugated Stitchers

	Plain	Ball-Bearing
1/8" x 1 1/2" corrugated disc roller	\$1.25	\$1.80



Knives

Square End Knife—6" x 1".	List Price	\$.45
Square End Knife—4" x 1".	List Price	.40



Round Blade Knife

2" x 1"—For cutting stocks and inside casing work.	List Price	\$.50
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Single Notched Knife

4" x 1"—For stepping-down work.	List Price	\$.60
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Double Notched Knife

1 3/4" x 1"—Back of knife serves as gauge in stepping down. Saves time in tearing-down work.	List Price	\$.55
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Hooked Point Knife

4"—For cutting out torn valve stems, trimming out tread injuries, trimming off tread, etc.	List Price	\$.40
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7" Fabric Hook.	List Price	\$.50
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Tread Gauge

For marking a line on side of casing to be re-treaded to enable tread to be applied evenly.

List Price	\$.50
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Fabric Pliers

For tearing out old fabric in repair work.

List Price	\$1.30
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Prodding Awl

A necessary awl for work around beads.

List Price	\$.30
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Pricking Awl

For removing air blisters. This is complete with handle and point and wrench.

List Price	\$.25
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Hand Roughing Brushes for Casings, No. 296

Small wire points on this brush make it very effective for small casings or tube jobs.

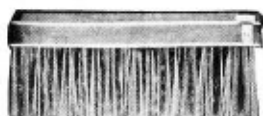
List Price	\$.30
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Hand Roughing Brush for Tubes, No. 1

Especially adapted for buffing around tube repairs.

List Price	\$.35
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Wire Roughing Brushes, No. 6430S

Well constructed. 6 1/4" x 1 1/2". Wires are 1 1/8" long. Excellent for cleaning and roughing casings.

List Price	\$.90
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Handle for 4 3/4" x 3/8" Adjustable Blade.

List Price	\$.60
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4 3/4" x 3/8" Beveled Point Adjustable Blade.	List Price	.30
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Prodding Tool

11 1/2" long. Used for prodding apart layers of fabric in tearing down tires.

List Price	\$.75
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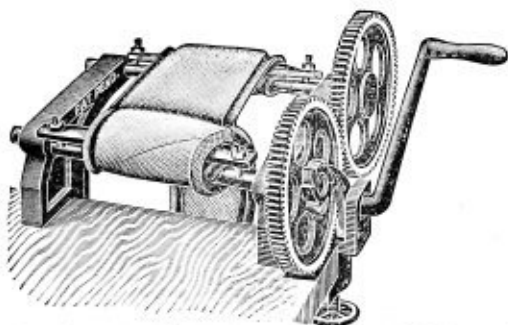
SPRAGUE RIM TOOLS



A tool that is needed in every tire service station. Enables bent or dented rims of any shape to be easily and quickly straightened without injury. Bent rims frequently cause tube pinching, etc., besides making it very difficult to mount or demount the tire. This convenient tool saves its cost in this way alone many times over.

Sprague Rim Tool. List Price.....\$1.50

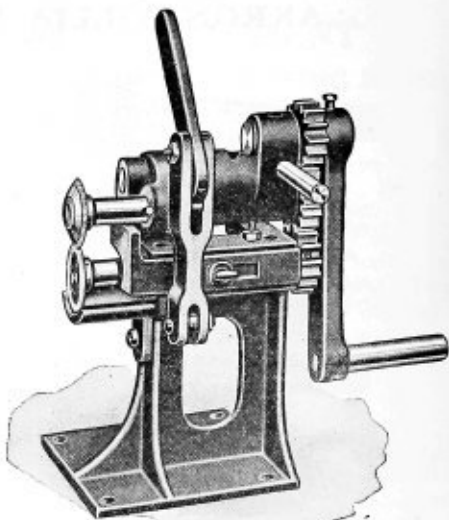
LEADER TIRE PEELING MACHINE



As shown in illustration, pulls apart fabric and discarded casings for use in repairing other tires. New fabric costs from \$1.50 per lb. up. With this machine the repair shop can utilize casings which would be otherwise scrapped with the result that perfectly satisfactory fabric can be obtained for the trifling cost of pulling it apart. The machine actually pays for itself in the cost of fabric in a week's time. To operate, it is only necessary to cut off rubber and one outside layer of fabric and loosen edge of fabric sufficiently to attach to roller. With the price of all materials "going out of sight" no repair shop can afford to be without this handy device. May also be used for peeling casings prior to retreading.

Tire Peeling Machine. List Price, Each.....\$25.00

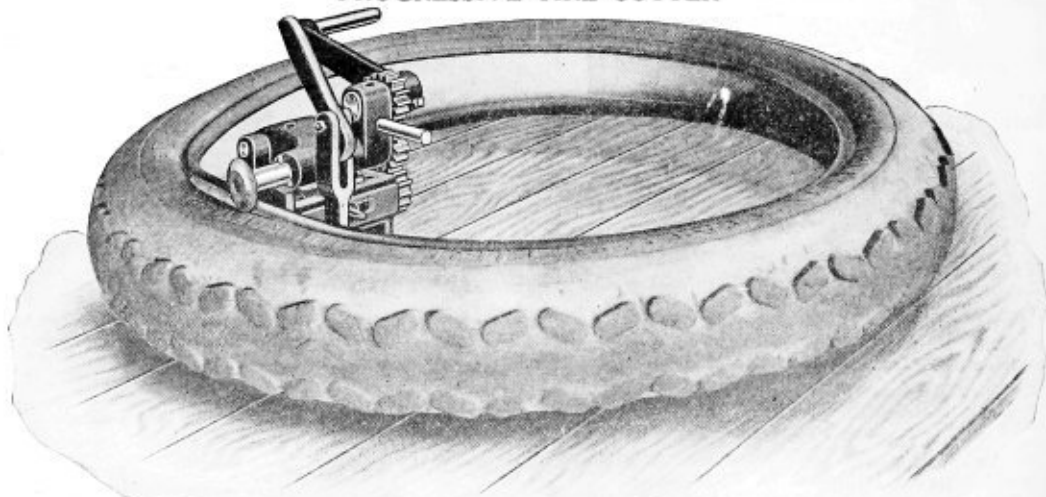
TIRE SKIVER



A practical device which enables the Tire Repair Shop to make use of the fabric in worn-out, discarded tires for making repairs on other tires. Tears apart the various plies of fabric. Equipped with extra wide blade and positive knife adjustment which makes it impossible for operator to set knives wrong. Both curved and straight guides are furnished, which enable it to cut on a curved or straight line, and may be adjusted for different thicknesses of stock or to cut any desired bevel. For skiving edges of tire fabric for boots or blow-out patches this machine is indispensable. Saves time, material, and labor. Built with rigid frame and occupies but a small space and may be attached to bench or counter.

Progressive Tire Skiver. List Price, Each.....\$15.00
Extra Blades. List Price, Each..... .50

PROGRESSIVE TIRE CUTTER



Cuts the tire from the bead. Useful in half-soling or patching jobs, as it is difficult to cut bead from tire by hand. Upper shaft is hinged so that tire can be placed between two circular knives without cutting bead by hand. Knives are notched so as to feed tire through cutters, therefore operator needs only to guide tire and turn crank. Easily operated.

Progressive Tire Cutter. List Price, Each.....\$25.00

WEAVER TIRE SPREADER



For easy and rapid inspection of casings. In the up-to-date Tire Repair Shop the Weaver Tire Spreader has no equal. By means of a quick-acting foot lever the casing is spread open for inspection or repairs without injury to tire or fabric. Instantly enables the tire repairman to locate all breaks or injury to the casing, as well as permitting an exact estimate of the cost of making the repairs. By spreading casing over convex plate, as shown in lower illustration, and placing the hooks over the bead of the tire, the casing may be removed while spread open and necessary repairs easily and quickly made. The plate also stiffens the tire when the interior is being buffed.

CONSTRUCTION.—A nest of rollers which protrude from the Buffing Plate carry the weight of the casing for inspection. These rollers are suspended in such a manner that when the tire is spread they are pulled and pressed down flush with the face of the Buffing Plate. Light in weight, very simple in construction—an invaluable tool for the Tire Repair Shop. Shipping weight, 65 lbs.

List Price\$24.00

Extra Buffing Plate. List Price, \$3.00.

WEAVER TIRE CHANGER



Dismounts or remounts every size and style of pneumatic tire from any type of rim. The time-saving value of this indispensable device is limitless. It will pay for its cost in wasted time in a few weeks' use. A shop equipped with the Weaver Tire Changer not only means a great saving in time hitherto wasted, but it means quicker

and better tire service for your customers. Every operation in the changing of tires is done by means of smooth finished rollers which absolutely prevent any possibility of injury to either casing or rim, regardless of how badly a tire may be rusted to rim. The simplicity of this device and elimination of unnecessary parts permit efficient operation even in the hands of an inexperienced operator. No pounding, jamming, or prying loose the old tires. The average time to dismount a tire being less than five minutes in actual use.

List Price, Complete with All Attachments.....\$65.00

TUBE TESTING TANK



A necessity in every garage or tire repair shop. Constructed of galvanized steel with sliding rod which is adjustable at entire desired height. Hand is double seamed heavy steel with wire reinforcement around top. Clamp and set screws brass. Length, 30". Width, 6". Depth, 8".

Tube Testing Tank. List Price.....\$5.00

WEAVER WIRE WHEEL REPAIR STAND

For All Styles of Wire Wheels

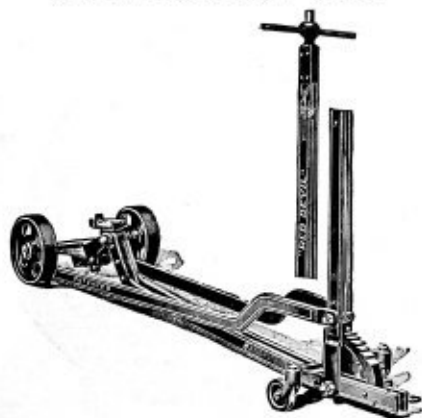


The tire repair shop is the logical place to handle repairs on wire wheels. As wire wheels cannot be satisfactorily repaired without first removing the tire, it is a simple matter with the aid of the Weaver Wire Wheel Repair Stand and a few small wrenches, screw drivers, etc., to make 95% of the repairs and realize the extra profits at practically no additional expense. The Weaver Wire Wheel Repair Stand is so constructed that

the wheel is rigidly supported on the Repair Stand by a cone-bearing contact with the inner surface of the hub. Has an adjustable indicator for exactly truing up the wheel. A revolving cabinet on the center standard of the Stand provides a convenient place for carrying the different sized spokes within easy reach of the mechanic. The main standard is constructed of heavy steel tubing, supported by a broad iron base, which insures rigidity for handling the heaviest wheels. Shipping weight, 60 lbs.

List Price\$30.00

RED DEVIL DOLLY JACK

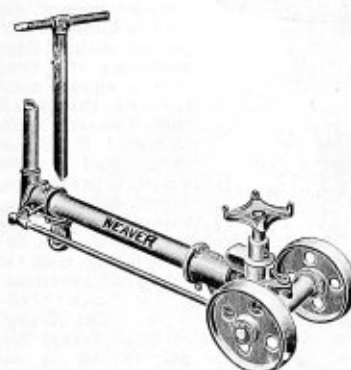


A heavy duty quick-acting Jack mounted on wide steel wheels with roller bearings. Constructed with unusually low clearances enabling it to be used under any part of car hitherto inaccessible except by means of a hoist. The heaviest type of car can be easily moved about the garage with this Jack. Constructed of crucible steel with extra long handle giving extraordinary leverage and ease of operation. Adjustable to various heights by means of convenient ratchet button at end of handle. Built to withstand the hardest use or abuse. Fulfills every requirement for a quick-acting, portable garage Jack.

List Price, Each.....\$45.00

WEAVER NEW-WAY JACK

Capacity 5000 lbs.

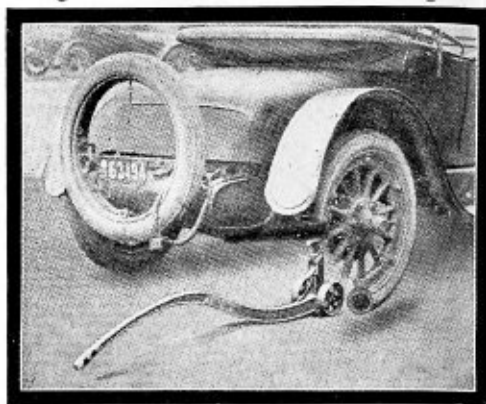


the handle, it is particularly valuable in cramped quarters. Of special value in handling trucks, is the telescoping standard, giving a range of from 8½" minimum height to a maximum of 18". All working parts hardened steel to reduce wear to a minimum.

Shipping weight 100 lbs.

List Price, Each.....\$35.00

HOVEY JACKS



A quick-acting, heavy duty garage Jack particularly recommended for service stations, etc., where an instantaneous lifting Jack is needed. Lifts the car from the ground by simply pressing up or down on a long lever handle. Strongly made and will lift the heaviest car easily. Made in two sizes.

No. 1 for medium weight cars, 4" wheels and 48" handle. Weight 18 lbs. List Price.....\$ 9.00

No. 2 for large cars and trucks, 60" handles and 6" wheels. Weight 33 lbs. List Price..... 15.00

VEHICLE CASTERS



Useful in moving the car around a crowded garage, etc. Constructed to exactly fit the shape of tire and mounted on ball bearing steel casters. No. 1 size will handle all medium weight cars; No. 2 all heavy cars.

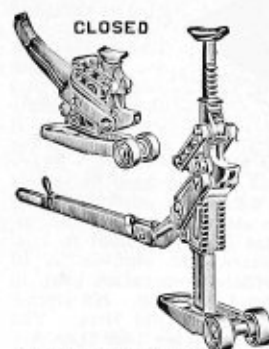
No. 1 Vehicle Casters, medium size.

List Price, per pair.....\$15.00

No. 2 Vehicle Casters, large size.

List Price, per pair..... 20.00

EXCEL JACKS



Jack is particularly useful in tire service stations, etc.

Excel Jacks. List Price.....\$25.00

E. & S. SERVICE JACK



The lowest price Service Jack we carry. Strong, simple, and practical. One stroke of lifting handles raises one or both wheels of car from ground, throwing jack from center and making it impossible to drop or lower car until handle is raised. Five ft. lifting handle; diameter wheel, 6"; $\frac{3}{4}$ " axle, $1\frac{1}{4}$ " diameter adjustable steel base with 5" adjustment. Weight, 25 lbs.

List Price\$7.50

WEAVER AUTO TWIN-JACKS

Capacity 4000 lbs.



Absolutely essential in every well equipped garage for quickly lifting front or rear of car from floor. Easy accessible handle. Mounted on heavy wheels with ball bearings making lifting exceptionally easy and obviating any necessity for a pit. Safe

under all conditions, as the screws-hoist mechanism provides a secure foundation for the dismantled car. Acts as a turntable or lifting Jack and enables the dismantled car to be easily moved about the garage. Compact design requires a minimum of floor space and does not interfere with radius rods, truss rods, etc.

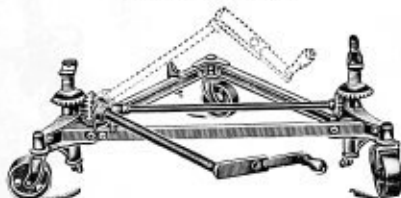
Specifications.—Lifting leverage 400 to 1. Wheel base, 34". Length of handle, 34". Diameter of screws, $1\frac{1}{8}$ ". Diameter of wheels, 44". Width of wheels, 22". Shipping weight 50 lbs. Lifting capacity 4000 lbs.

List Price, Each.....\$15.00

While these Jacks are priced and sold separately, we strongly recommend the purchase of two, as the repair shop invariably finds the use of a complete set a necessity.

WEAVER EXTRA HEAVY TWIN-JACKS

Capacity 8000 lbs.



Identical in design with the smaller size but intended for use with the heaviest cars and trucks. A 40" extension crank handle enables this Jack to be used on cars with low gasoline tanks and protruding tire racks.

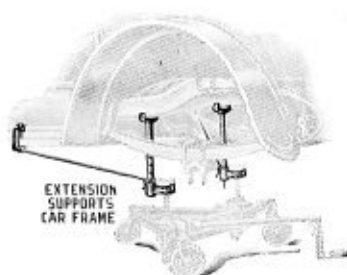
Specifications.—Diameter of wheels, 7". Diameter of screw, $1\frac{1}{4}$ ". Shipping weight 110 lbs. Lifting capacity 8000 lbs.

List Price, Each.....\$25.00

A completely equipped repair shop requires two Extra Heavy Twin-Jacks as it enables the dismantled car to be moved about as desired.

WEAVER EXTENSION BODY

For Weaver Extra Heavy Twin-Jacks



This body extension is designed to clamp securely to the raising screws of the Weaver Extra Heavy Twin-Jack for supporting a car from the frame instead of from the axle as with the ordinary Jack. Enables the entire front or

rear axle to be removed and the dismantled car pushed out of the road. The illustration shows method of attachment. Cannot possibly slip or work loose even under the heaviest loads, as it is fastened to the thread of the screws by heavy bolts. Adjustable to fit any width car frame from 24" to 36". Minimum height of extension arms, 18". Maximum height 40" by means of a single pin adjustment.

Construction.—Extension arms are made of solid $1\frac{1}{2}$ " steel. Clamp jaws cast steel. Brace rods extend forward from each Clamp and are attached to running boards by heavy screw Clamps, preventing car from wobbling while being moved. Shipping weight 25 lbs.

List Price, Each.....\$10.00

E. & S. EXTRA HEAVY SERVICE JACK



Operates on same principal as E. & S. Service Jack but is much heavier in construction. Intended for use with large cars and trucks. Six ft. lifting handle; diameter wheels, 6"; width, 2"; $\frac{3}{8}$ " axle; $1\frac{1}{4}$ " steel post adjustable up to 16". Weight, 40 lbs.

List Price\$14.00

AUTOHORSES



For holding up dismantled cars, etc. Simply an extra strong style of the "old-fashioned" wood horse. Made of thoroughly seasoned hardwood, securely bolted and braced. Will hold the heaviest cars or trucks.

No.	Hgt.	Lgt.	Legs	Top	List Price Each
1	16"	15"	$1\frac{3}{4}$ " x 3"	$2\frac{3}{8}$ " x $3\frac{3}{8}$ "	\$3.44
2	22"	18"	$1\frac{3}{4}$ " x 3"	$2\frac{3}{8}$ " x $3\frac{3}{8}$ "	4.06
3	28"	18"	$1\frac{3}{4}$ " x 3"	$2\frac{3}{8}$ " x $3\frac{3}{8}$ "	5.00
4	34"	36"	$1\frac{3}{4}$ " x 3"	$2\frac{3}{8}$ " x 5"	7.50

AMERICAN TOWING CHAINS



Made in five sizes to meet the demand for all types of cars or trucks. Made of non-breakable, non-kinkable chain. Guaranteed satisfactory.

No. 2800. Breaking strength, 3,000 lbs.; length, 18 ft. Weight, 13 lbs. Made of $\frac{3}{4}$ " chain with special grab hook and 24" canvas covering on each end. Chain heavily galvanized to prevent rusting.

Packed in strong canvas bag.

No. 2800 American Towing Chain.

List Price\$5.00

No. 2801. Breaking strength, 8,000 lbs.; length, 20 ft. For medium and heavy weight passenger cars. Weight, 34 lbs. Made of $\frac{3}{8}$ " chain with special grab hook and 24" of canvas tubing on each end. Chain heavily galvanized to prevent rusting. Packed in strong canvas bag.

No. 2801 American Towing Chain.

List Price\$9.00

No. 2802. For $\frac{1}{2}$ ton trucks. Breaking strength, 8,000 lbs.; length, 25 ft.; weight, 42 lbs. Made of $\frac{3}{8}$ " chain with special grab hooks on each handle. Packed in strong canvas bag.

No. 2802 American Towing Chain.

List Price, Each.....\$10.00

No. 2803. For $\frac{3}{4}$ ton trucks. Breaking strength, 11,500 lbs.; length, 25 ft.; weight, 56 lbs. Made of $\frac{1}{2}$ " steel chain with special grab hook on end. Packed in strong canvas bag.

No. 2803 American Towing Chain.

List Price, Each.....\$11.00

No. 2804. For $\frac{5}{7}$ ton trucks. Breaking strength 15,000 lbs.; length, 25 ft.; weight, 71 lbs. Made of $\frac{1}{2}$ " steel chain with special grab hook on end. Packed in strong canvas bag.

No. 2804 American Towing Chain.

List Price, Each.....\$13.00

AUTO TOW ROPES

High-grade manilla rope, selected quality.

Rope, 1".	Per ft.....	\$.40
Rope, $\frac{3}{4}$ ".	Per ft.....	.25
Rope, $\frac{1}{2}$ ".	Per ft.....	.15



AU-TO TO-LINE

The Tow Line Without a Jerk.

Consists of a combination of manilla fibre rope and steel wire cable, securely twisted together. Will not kink. Absolutely guaranteed to outlast two other cables. The wire cable reinforcement gives the Au-To To-Line the flexibility and springy action of a hardened rope, while the steel wire cable effectively prevents breakage. Made in two sizes, for pleasure cars or trucks. Packed in canvas bags.

Weight, pleasure car size, 5 lbs.; truck size, 6 $\frac{1}{2}$ lbs.

Au-To To-Line, Pleasure Car size.

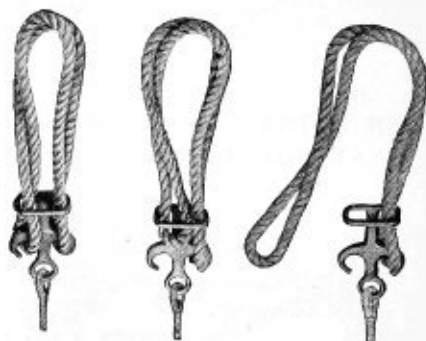
List Price, Each.....\$7.00

Au-To To-Line, Truck size. List Price, Each..... 8.50



The Tow-Line Without a Jerk

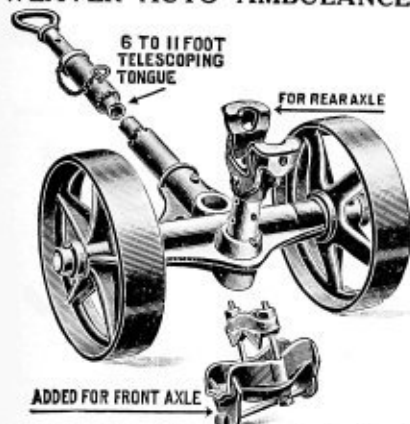
AMERICAN TOWING CABLE



Made by the American Steel & Wire Co. Galvanized flexible steel wire rope, with forged steel double hooks and manilla loops for attachment to car. Steel hook is of unique design for easy attachment. Combines a maximum of strength with a minimum of weight. Length, 25 ft. May be doubled for extra heavy loads. Will handle the heaviest passenger car with ease.

American Towing Cable. List Price, Each.....\$6.00

WEAVER AUTO AMBULANCE



The only practical method for towing in disabled automobiles. Simply in construction, it is designed for maximum strength with the elimination of all useless weight. Easily handled by one man. Equipped for carrying front or rear axles. Weight of disabled car is evenly balanced and it is impossible for car to bounce out of saddle. Tongue telescopes from 7 ft. to 13 ft. as desired. Standard adjustable in height as desired.

Specifications.—Tongue extra heavy steel tubing, adjustable from 7 to 13 ft.; standard adjustable for height. Cast steel wheels, diameter, 14"; width, 3"; tread, 22". Wheels mounted on roller bearings, grease lubricated. Shipping weight 140 lbs.
List Price, Each, with Steel Wheels.....\$36.00



Also made with solid rubber tires, preventing the jar and rattle which otherwise cannot be eliminated when plain steel tire wheels are used. While considerably higher in price, we invariably

recommend the Weaver Ambulance equipped with rubber tires as it makes towing easier and enables the towed car to be moved at a much greater speed. Weaver Ambulance, with solid rubber tires.

Price List\$74.00

"TOW-FORD"

For Fords.



A simple device by which one man can tow and control 1, 2, or 3 other Fords. Cars are kept evenly in line and towed cars are correctly steered by the Towing car. Approved by Ford Motor Co. Made of two parts, one of which a forked strap is to be permanently attached to service car under rear spring; other parts consists of a shaft with bracket at one end supporting clamps, one of which is attached to the front axle of the towed car swiveling in the bracket; the other to the steering rod for a swivel and side-ways movement in bracket. The shaft is connected to service car by a pin through forked strap and shaft.

"Tow-Ford" Towing Device. List Price Each.....\$8.00

WEAVER TOWING POLE



Prevents any possibility of collision between the towing and towed cars. No jerky, breaking tow lines. The Weaver Towing Pole consists of two strong steel telescoping tubes, cushioned by a powerful coiled spring which absorbs all jerks and shocks. May also be used for pushing a dismantled car into the repair shop. Equipped with strong universally adjustable chain attachment which fits all types of axles, front or rear. Adjustable in lengths from 5 ft. 6 in. to 8 ft. All parts liable to breakage, made of malleable iron. Shipping weight, 30 lbs.

List Price\$12.00

BUCKEYE TOWING CABLE



Capacity, 7,000 lbs. Made of crucible steel, with ropes for attaching to axle. Entire cable rolls up on a reel. Illustration shows quick attachable double and hook. Cannot kink. Hook guaranteed not to break. Attaching ropes are purposely made not quite as strong as cable, so that in case of unusual strain the rope will break instead of the more expensive cable. Guaranteed to handle the heaviest pleasure car.

Buckeye Towing Cable. List Price, Each.....\$6.00

BUCKEYE TRUCK TOWING CABLE



Guaranteed to withstand a strain of 12 tons. Made of $\frac{1}{2}$ " Blue Center steel cable, 20 feet long, with heavy malleable hooks on each end. Hooks are equipped with long $\frac{3}{4}$ " manilla rope slings for attaching to axle. The rope sling acts as a spring and protects cable. Rolls up on convenient reel, as shown in illustration. A high-grade extra strong cable.

Buckeye Truck Towing Cable. List Price, Ea. \$15.00

GARAGE *Manley* EQUIPMENT

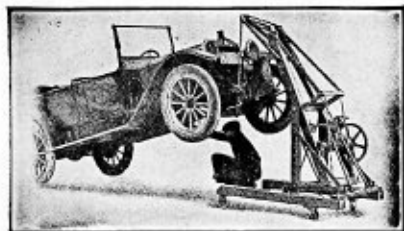
Manley General Utility Garage Crane

For All Lifting Work Inside the Garage as a Portable Floor Crane—For All Outside Wrecking, Towing and Lifting



As a Portable Floor Crane for Inside or Outside Uses.
Capacity, 1½ Tons. List Price \$137.50.

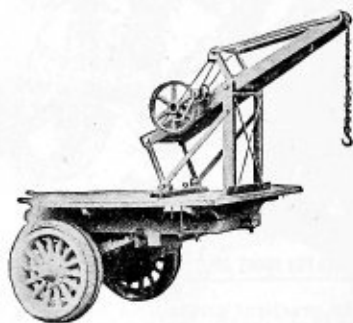
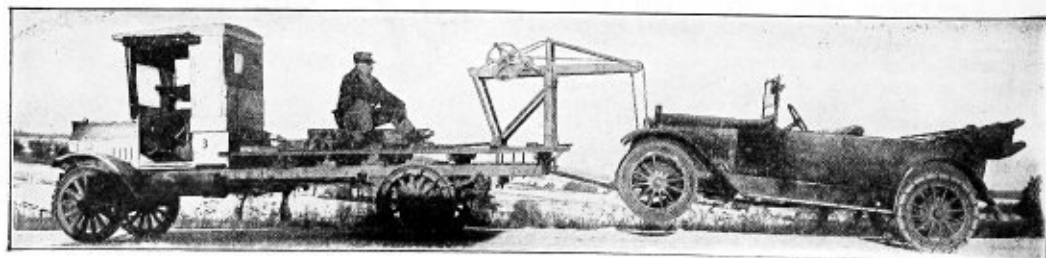
Wt., 500 lbs. Cat. No. 100



In its complete form with Portable Base it combines a Portable Floor Crane and Wrecking Crane, providing the essential requirements of a Garage Crane—Deep Overhang, 36 inches. High Lift, 7 ft.; Low Base and Light Weight; 1½-Ton Lifting Capacity; constructed of steel throughout, except gearing, which is cast iron, and the base, which is seasoned White Oak.



Wrecking Jobs pay big fees. The Manley Wrecking Crane turns these into all profit, handling them quicker than any other appliance. Hook on to front or rear of a car and tow it in while you are thinking about jacking up to put a truck under car. In a ditch, use as winch and pull car out. Car overturned, set it on all four wheels easily. Unloading cars out of freight cars in a class all its own.

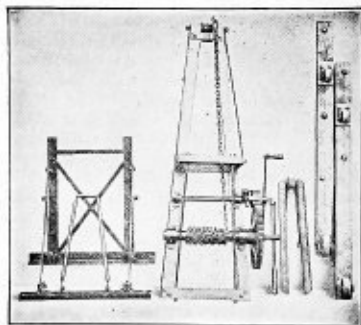


As a Wrecking Crane Mounted on a Truck.
Capacity, 2 Tons. List Price \$124.30.
Wt., 400 lbs. Cat. No. 101

Due to a 4 Unit Construction two men can take it down and put it together again in five minutes. So it can instantly be changed into a Wrecking Crane mounted on Service Car or vice versa; if no service car is available it can be taken apart and into the country in a Touring Car.

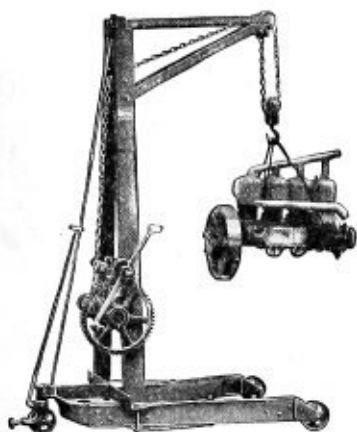
If not wanted as permanent mounting on service car, or if you do not want to invest in both a Portable Garage Crane and a Wrecking Crane, due to this construction this crane offers you the best crane of both types, combined in one piece of equipment and at the price of one.

As a Wrecking Crane only—Overhang of Beam, 42 inches, requires space 36 in. x 24 in. Lifting capacity, 2 Tons. Weight, 400 lbs.



Completely Taken Down by Two Men in Five Minutes

Manley Portable Floor Cranes



A Portable Floor Crane is probably the most used and biggest labor saving piece of equipment in the Garage, but to be of service it must be designed for Garage use and not a makeshift inheritance from the machine shop.

Manley Portable Floor Cranes are especially designed for Garage use and are indispensable in the Garage and Shop. They are always ready for instant use, reach every corner of the shop, save time and labor and prevent accidents. They do all lifting jobs better, quicker and easier than any other method. Their application to all kinds of work in Garage and Shop is unlimited, as they not only lift the load but transport it.

Manley Cranes have a superstructure of structural steel, cantilever bridge design (lightness and strength). There is no excessive weight up in the air to make them top heavy. This, in conjunction with a Combination Cast Iron and Heavy I-Beam Base, brings the center of gravity down to floor, making possible a crane which has

High Lift—Deep Overhang—Light Weight
so absolutely essential in a crane for Automobile Work.

Due to this construction are not unwieldy and excessively and unnecessarily heavy. One man can raise a load of full capacity and then is able to move crane by himself.

The $\frac{1}{2}$ ton Crane is particularly adapted to handling the lighter cars, such as Ford, Maxwell, etc.

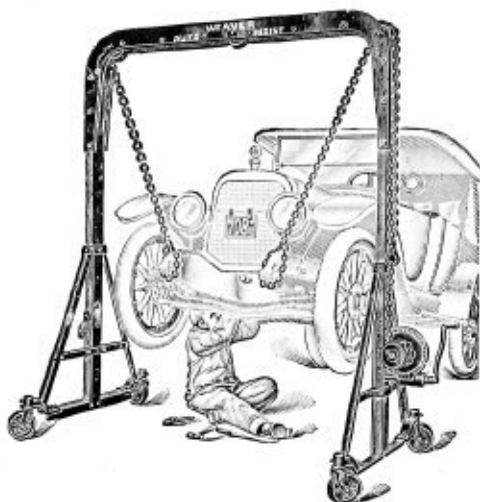
The 1 ton Crane covers practically the whole range of passenger cars and light truck work.

The 2 ton Crane is advisable for the heavier passenger cars and trucks.

**SPECIFICATIONS OF STANDARD MANLEY CRANES
ROLLER BEARING WHEELS**

Cat. No.	Capacity	Lift from Floor	Overhang	Width Base	Height Base	Weight lbs.	Price
59	$\frac{1}{2}$ ton	6 ft. 0 in.	30 in.	32 in.	6 in.	300	\$77.00
61	1 ton	6 ft. 6 in.	35 in.	36 in.	6 in.	500	110.00
62	1 ton	7 ft. 0 in.	35 in.	36 in.	6 in.	515	115.50
63	1 ton	7 ft. 6 in.	35 in.	36 in.	6 in.	525	121.00
72	2 tons	7 ft. 0 in.	38 in.	40 in.	8 in.	750	154.00
73	2 tons	7 ft. 6 in.	38 in.	40 in.	8 in.	770	161.70

WEAVER AUTO HOIST



Every garage or repair shop needs a quick-acting, dependable, portable Crane or Hoist. The Weaver Auto Hoist has been designed especially for use in automobile garages or repair shops. Occupies but 12" to 14" space on either side of car, enabling its use in very cramped quarters. Constructed with a telescoping frame, permitting the height of the arch to be raised or lowered from a minimum height of 7 ft. 6 in. to a maximum height of 9 ft. 2 in., by means of its own power. This increased height enables the Hoist to raise the rear end of the largest limousine.

Two methods of chain suspension are provided: one, as shown in illustration, the other permitting a single suspension from pulley at center of arch. Hoisting mechanism is the well known safety worm-drive type which allows a tremendous leverage. Ratio 200 to 1. No ratchets or dogs are used; hence the load may be lifted or lowered the smallest fraction of an inch. Hoist is mounted on large 5" ball and roller bearing casters, permitting the hoist to be moved while carrying its load. Cannot possibly tip over.

Specifications.—5" Channel steel with arch reinforced on both sides by $\frac{3}{8}$ " x 4" steel plates. Capacity with double suspension, 3,000 lbs.; with single suspension, 2,000 lbs. Shipping weight, 550 lbs.
List Price\$125.00

WEAVER TRUCK HOIST

Practically identical in design with Weaver Auto Hoist but constructed of very heavy "I" beam stock with a lifting capacity of 6,000 lbs. for double suspension and 4,000 lbs. for single suspension. Lifting mechanism is of the same worm-gear type, but has a compound leverage, giving a lifting leverage of 400 to 1. Width between frames, 8 ft. 4 in. Minimum height of arch, 8 ft. 4 in. Maximum height of arch, 10 ft. Shipping weight, 900 lbs.

List Price\$250.00

DIFFERENTIAL CHAIN HOIST

The Differential Chain Hoist contains the fewest number of parts and costs the least of any chain block made.

It handles loads readily and on account of its simplicity and reliability is especially adapted for ordinary hoisting purposes where higher power and durability of the spur and screw geared blocks are not required.

With a Differential Block, three men pulling 216 pounds can lift a ton, or one man can do the work which would require several men with rope-tackle, jacks, skids, crow-bars and rollers. Heat and cold do not affect it and it will stand all kinds of weather; one Differential Chain Hoist will outlast several rope hoists.

Our hoists are well designed and proportioned—the chains are accurate in size, finely finished and hardened to prevent wear. The sheaves are large and chain pockets are carefully formed to mesh accurately with the chain, assuring smooth working and also lessening the tendency of the chain to stretch when overloaded.

Allow four feet of chain for each additional foot of lift.

No.	Capacity, Tons	Will Lift, Feet	List Price, Complete	Price Extra Lift, Per Foot	Length Regular Chain	Price Extra Chain, Per Foot	Weight, with Chain lbs.	Shortest Distance Between Hooks
2	$\frac{1}{2}$	7	\$42.00	\$5.60	26	\$1.40	31	21"
3	1	8	56.00	6.00	30	1.50	53	26"
4	$1\frac{1}{2}$	$8\frac{1}{2}$	72.00	6.40	33	1.60	90	32"
5	2	9	90.00	6.80	34	1.70	125	38"



THE "DUPLEX" SCREW GEARED CHAIN HOIST

With the Duplex Hoist, one man pulling only 87 pounds can lift a one-ton load.

This hoist requires little head room and it is especially adapted for portable use, as it is light, powerful and durable.

The load is carried by two distinct chains and to guard against accident each of these chains has ample strength to carry any load up to the rated capacity of the hoist.

The safety guides prevent the load chain from slipping and the swivel connections prevent fouling of the chain.

The bronze worm wheels and steel worms have hardened and ground thrust bearings and run in oil, insuring smooth action and thorough lubrication.



Capacity in Tons	List Price, Complete	Regular Hoist, in Feet*	Extra Hoist, Price per Foot	Minimum Distance Between Hooks, in inches	Reach† Ft. In.		Net Weight, in Pounds	Gross Weight, in Pounds	—Chain Pull— Pounds Feet	
$\frac{1}{2}$	\$50.00	8	\$2.00	13	9	1	43	53	68	40
1	60.00	8	2.20	16	9	4	57	69	87	59
$1\frac{1}{2}$	80.00	9	2.40	19	9	7	76	95	94	80
2	100.00	9	2.60	21	10	9	104	125	115	93

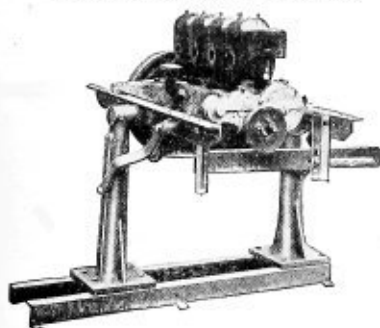
* Height will hoist from level on which operator stands.

† The "reach" is the sum of the "hoist" and the "minimum distance between hooks; when hung at this height, the hand chain hangs down to within 18 inches of the floor.

‡ Denotes pull in pounds to lift the full load and the number of feet of hand chain which must be handled to lift the load one foot.

GARAGE *Manley* EQUIPMENT

Manley Engine Stands



MOUNT 3 AND 4 POINT SUSPENSION MOTORS

Motor is easily and quickly mounted. It bolts to cross arms same as to frame of car. Rigid and heavy, it safely supports engine and does not spring and shake.

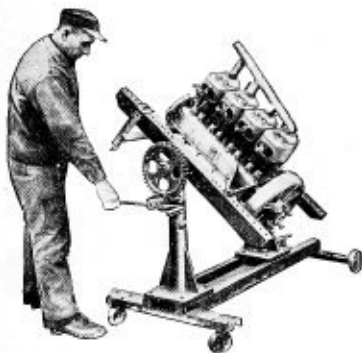
One pedestal slides along base to give proper width between cross arms.

Third Point Suspension Bar provides point of rest and attachment for 3rd point of motors. It is slotted and adjustable to any position with an exactness impossible in any other type construction.

Motor can be turned instantly and locked rigidly in any position throughout 360 degrees.

Base is narrow so mechanic can stand right up against Engine and work in natural position without interference.

The mechanic can work on any part of Engine without stooping or cramping and do better and more work, saving time, which means money.



These stands are built plain and geared, portable and stationary in two sizes. Regular for most all motors. Extra heavy for larger Commercial Car motors.

Stationary		Portable	
54 inches	Regular Stand Plain and Geared	54 inches	
40 inches	Length of Base	33 inches	
44 inches	Height to top of Cross Arms	44 inches	
145 lbs.	Length of Cross Arms	44 inches	
	Net Weight Plain	260 lbs.	
\$32.80	No. 151—Price Plain—No. 155	\$64.90	
165 lbs.	Net Weight Geared	280 lbs.	
\$67.10	No. 152—Price Geared—No. 156	\$79.20	
Commercial Type Stand Plain & Geared		Portable	
54 inches	Length of Base	54 inches	
36 inches	Height of top to Cross Arms	39 inches	
54 inches	Length of Cross Arms	54 inches	
300 lbs.	Net Weight Plain	325 lbs.	
\$69.30	No. 161—Price Plain—No. 165	\$81.40	
320 lbs.	Net Weight Geared	345 lbs.	
\$83.60	No. 162—Price Geared—No. 166	\$95.70	

Manley New Ford Engine Stands



The new Manley Ford Motor Stand is the most wonderful engine stand for Ford repair work ever invented.

With this simple gripping method the complete power plant,—Cylinder Block, Magneto Case, Oil Pan—is merely slid over spindle against yoke, one nut tightened and the complete power plant is mounted ready to go to work on.

Absolutely no strain on water jacket or cylinders.

The motor actually hangs suspended in the air.

Every part is easily accessible.

The U-Shaped yoke even permits access to center bearing bolts, an operation impossible in any other construction.

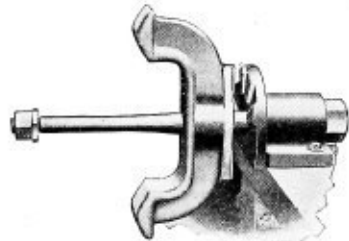
Motor is gripped in center and turns over like a pulley and is instantly locked rigidly in any position.

No. 182 Portable. Weight, 120 lbs. List Price, \$35.20

No. 181 Stationary. Weight, 100 lbs. List Price, 30.80

Special Fitting for Chevrolet Motors. List Price, .88

Manley Ford Bench Motor Support



This is exactly same as Motor Stand described above, the only difference being the NOTCHED METHOD OF LOCKING.

Same Gripping Method.

Allows motor to be turned to 8 positions, 2 horizontal, 2 vertical and 4—45 degrees. The 45 degree positions are most used and no motor support is of real service without them.

The Magneto will clear the bench.
No. 188. Weight 28 lbs. List Price.....\$12.10

CONTINENTAL MOTOR STAND



Fits Any Motor.



With Ford Motor.

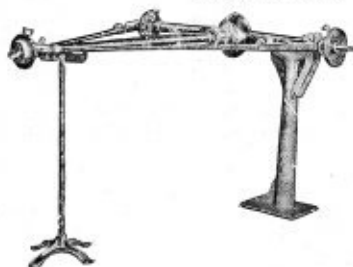
Fits all motors. Constructed of heavy castings, rigidly braced and adjustable to fit any kind of motor from 1 to 12 cyls., including Ford motors. May be adjusted any width or height and locked in any desired position. Each stand is complete and requires no further extras. Motors are always in an easily accessible position.

Length over all, when fully extended, 42"; width 30"; extreme height 37"; minimum height 32"; length of side rails 48"; width of adjustment from 0 to 30"; weight crated for shipment 290 lbs; mounted on heavy steel double casters.

Continental Motor Stand. List Price, each.....\$60.00

MILES' REAR AXLE STAND

For Ford Cars



The simplicity of design, low price, and all-round utility of this device makes it unequalled for handling Ford rear axle repairs. Strongly made. All parts subject to strain being of extra heavy steel.

Miles' Rear Axle Stand. List Price.....\$15.00

K. & S. FORD ENGINE STAND

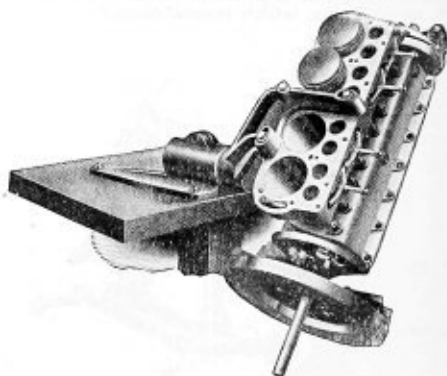
For Ford Motors Only.



Adjustable to six different positions. Consists of a strong angle iron stand with two casters on one end and a convenient lifting handle for moving about repair shop. The Ford motor may be held upright, upside-down on either side, or vertical, and permits any desired repairs or adjustments with a minimum of labor, as all parts are equally accessible. Ford power plant is attached by one or two quickly and easily detachable bolts which fit in holes already in crank case. This stand cannot be recommended too highly for Ford repair work.

K. & S. Engine Stand. List Price.....\$50.00

O'BRIEN MOTOR SUPPORT



An ingenious support which holds a Ford motor in any desired position by means of a supporting arm which is bolted to engine head bolts. The only Bench Support which enables all parts of the Ford motor to be disassembled or assembled without removing supports. Its construction is such that the motor is always evenly balanced and if desired may be turned completely around with no effort at all. Bracket attaches to work bench by three bolts and is made of malleable iron, guaranteed to stand a 1,500 lb. strain. While particularly recommended for Ford cars it is so made that it can be fitted to all demountable head motors. Saves the extra cost of an engine stand and keeps the motor in the most convenient place for repairs or adjustments—at the work bench.

O'Brien Motor Block Support.

List Price.....\$18.00

WEAVER UNIVERSAL AXLE STAND

For Any Type Rear Axle



Simplicity is the principle feature of this newest type Rear Axle Stand. Designed to handle any size or style of axle without the use of elaborate adjustments or orspcial attachments and strong enough to handle the average truck axle. The unusual shape of the crotches of the main axle stand (one prong standing at the angle of degree while the prong stands in pratically a vertical position) permits the other prong to be inserted between the truss rod and axle allowing the main body of the axle to rest in the seat of the crotch without interference with truss rods. The axle is securely clamped to the stand by means of heavy chain attached to an "eye" bolt making it adaptable for all size or style axle housing.

Each Axle Stand is equipped with a simple clamp-arrangement connected to a heavy chain for pulling out torsion tube from axle housing without possibility of injury to any part. A wide, heavy base prevents tipping over and it is unnecessary to fasten stand to the floor—a great convenience, as the tool can be carried to the job. A large tool tray of heavy sheet metal is convenience that every machine will quick-

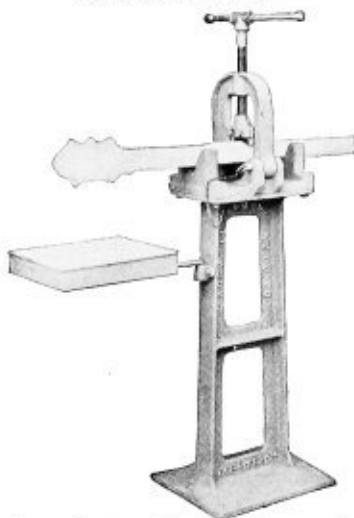


ly recognize. A removable oil pan is carried under the differential housing for colleceing the grease. Every part of this stand is strongly constructed and reinforced to prevent the possibility of injury under any kind of use or abuse. Shipping weight 135 lbs.

List Price.....\$36.00

REAR AXLE VISE STAND

Carswell-Hammond.



Made from best quality cast iron and equipped with pipe vise for holding axle housing in desired position. Designed to hold shaft housing in either vertical, horizontal or any other position without blocking and will handle the rear axle of any car with or without housings. Equipped with quick release pin on one jaw of vise, enabling the job to be instantly removed. Equipped with grease pan for collecting grease parts, etc., as they are disassembled. Will handle any type of rear axle including the Ford. Weight 140 lbs.

Rear Axle Vise Stand. List Price, Each.....\$36.50

MILES' BENCH PLATE

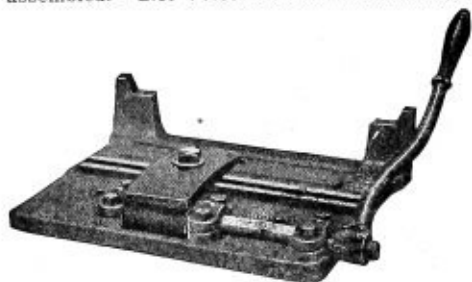
For Ford Motors



No. 4

Every Ford Repair Shop needs these two handy Bench Plates for rigidly holding the Ford cylinder block, and other various repairs and adjustments.

No. 4 Bench Plate—Holds the Ford cylinder block upside down so that bearing may be conveniently fitted and transmission quickly assembled. List Price.....\$15.00



No. 5

No. 5 Bench Plate—Holds cylinder block sideways and is particularly convenient in fitting pistons, connecting rods, valves, etc.

List Price.....18.00

HINCKLEY-MYERS DIFFERENTIAL VISE PLATE

For Ford Cars



Fig. 1

Highly recommended by the Ford Motor Co. Consists of a specially shaped plate (Fig. 2) which is attached to bench by two screws or bolts holding differential securely in position as shown in Fig. 1. Enables assembling or disassembling in a fraction of the time usually required. Differential is held rigidly in position by dowel pins which engage

teeth of gear or cap screws that hold ring gear to differential case flange. Weight, 18 lbs.

List Price\$6.50

MILES' PISTON VISE

For Ford Cars

A valuable aid in quick and efficient assembling or disassembling all connecting rods, pistons, etc. The hole through bottom of vise allows all operations on pistons without taking off connecting rod. Vise jaws are lined with easily replaced babbit to prevent injury to piston. Requires no adjustments. Operates like a regular bench vise.



Miles' Piston Vise for Ford Cars. List Price...\$12.00

Miles' Piston Vise for Fordson Tractor.

List Price 14.00

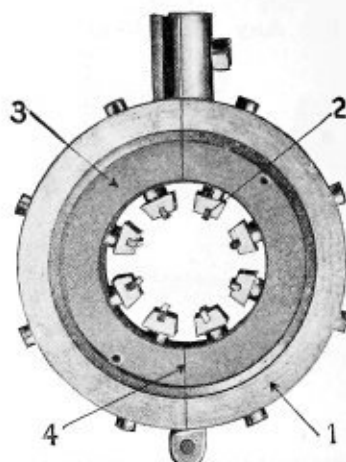
INSERT RINGS FOR MILES' PISTON VISE

A set of five rings or shims for all sizes of pistons from 3 3/4" down to 3 1/4" diameter. Greatly increases the range of Miles' Piston Vise, as it allows handling pistons between 3 3/4" and 3 1/4" diameter.

Insert Rings for Miles' Piston Vise, Per Set of 5.

List Price\$3.00

PETERS CRANK SHAFT GRINDER



One of the most ingenious tools ever constructed. Enables the crank shaft to be "trued up" without the use of a lathe. Will handle crank shafts up to 2 1/4" in diameter. Simply clamp crank shaft in rigid position in a vise and turn screw plate of crank shaft grinder until opening of cutter is greater than diameter of crank pin; leaving screw plate on center line. Take lock off handle open tool, and place on crank pin. Close lock and adjust the size with spanner wrench. Tool should be turned without using force and a perfectly round crank pin will result in a few moments. Crank shaft grinder is made of aluminum and high speed steel and is so constructed that it will last for years. When blades become dull from long continued use simply return to us and a new set will be furnished at a nominal cost.

Peters Crank Shaft Grinder, List Price, Complete\$75.00

HINCKLEY-MYERS UNIVERSAL CONNECTING ROD ALIGNING GAUGE



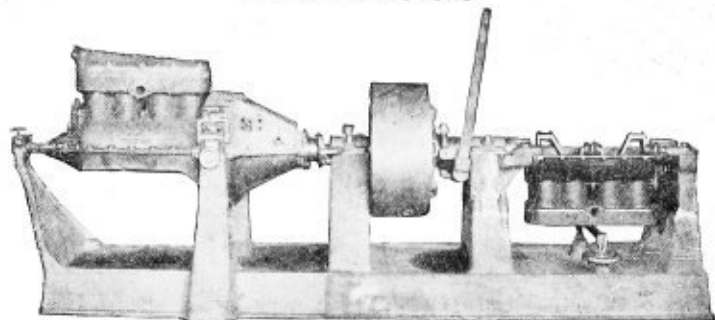
For straightening and aligning all size connecting rods of any type motors. Adjusting one small bushing enables this machine to be used on all different sized connecting rods. Hardened blocks indicate when rod is exactly centered in addition to giving correct alignment. The use of this device prevents piston knocks and scored cylinders, and every repair shop should be checked up before completion. Weight, 50 lbs.

List Price\$45.00

MILES BEARING BURNING AND BURNING-IN MACHINE FOR FORDS

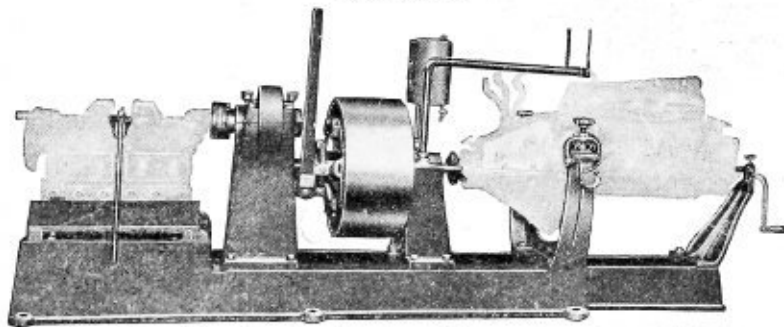
Saves hours of time formerly used in fitting up Ford motor bearings after overhauling. Consists of a rigidly built device in which the Ford motor is to be held and which automatically "burns-in" the bearings, insuring a smooth bearing without the usual hours of scraping in. Equipped with patent aligning features which insure absolute rigidity without the necessity of adjustments.

Made in two styles: Type E for Ford cars only. Type F for Ford cars and Fordson tractors. The machine is so designed that one Ford motor may be "burned-in" while the other is tested out under its own power.

**MILES' TYPE E BEARING BURNING-IN AND FINAL TEST MACHINE
FOR FORD MOTORS**

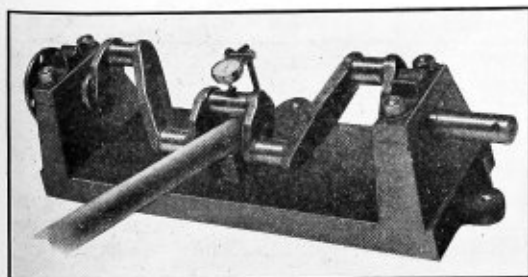
Equipped with patent alignment feature and 20" cone clutch, with 3" face, Raybestos lined, giving 170" friction service. Requires no adjustments; only three working parts. Motor blocks are placed in an inverted position with bearings exposed for easy adjustment. As machine is of back-gear type burning-in speed is half of pulley speed. Gears are 2" face, 20 and 40 teeth, 5 and 6 pitch hardened steel with $2\frac{3}{8}$ " diameter shaft. Height of machine over all, 32". Height to center of drive shaft, 22". Weight of complete machine, 1,000 lbs. Weight of clutch assembly, 225 lbs. Floor space required, 20" x 94".

List Price, F. O. B. Factory.....\$325.00

**MILES' TYPE F FORD AND FORDSON BEARING BURNING AND FINAL TEST
MACHINE**

Very similar to Type E machine, but is equipped with four extra parts, enabling its use on either Ford cars or Fordson tractors. Easily changed from Ford motors to Fordson motor and vice versa in a moment's time. Floor space, 102" x 16". Height of machine, 30".

List Price, Complete, F. O. B. Factory.....\$450.00

CRANK AND CAM SHAFT STRAIGHTENER AND TESTER

Enables bent crank or cam shafts to be straightened with the aid of pinch bar in a few moments, and is equipped with aligning gauge showing the exact amount shaft may be out of line. Shaft is suspended on end bearings and indicator rests on center bearing. May be used also for testing for roundness as indicator shows variations in thousands and machine has indicator holder on each end, making it possible to test both end bearings. End caps are reversible for straightening cam shafts. Shipping weight 100 lbs.

List Price\$40.00

TRIPLE GEAR RIVETING BLOCK

For Fords.



Instead of holding rivet set in vise with one man holding the gears in position to rivet while another is required to do the riveting, the Miles' Triple Gear Riveting Block enables the gear to be securely riveted by one man

unaided. The gears with rivets are fastened with a nut to the block and rivet block clamped in vise in position to rivet. Saves at least one-half hour's time on each job. Made of steel, tempered for hard service.

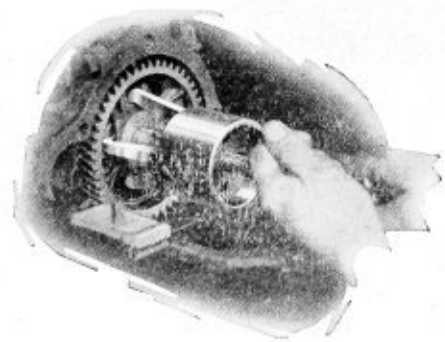
Miles' Triple Gear Riveting Block. List Price...\$3.50

HINCKLEY-MYERS COMBINATION GEAR PULLER

For Ford Cars



Used and recommended by the Ford Motor Co. Simple in operation, strong and durable, being made of best quality tool steel.



Removing Cam Gear

The four jaws insure a rigid even tool. Behind each jaw is a coiled spring with a sliding collar surrounding it. This Gear Puller is especially adapted for removing generator and cam gears, axle gears, etc., of Ford cars. Shipping weight, 10 lbs.

List Price\$10.00

HINCKLEY-MYERS DRIVE PINION GEAR PULLER

For Ford Cars



Constructed to remove drive shaft pinion with minimum expenditure of time and labor. Carefully machined inside and out to insure point of contact with pinion gear. Absolutely fool-proof. Illustration shows pinion gear puller clamped over gear. Weight, 6½ lbs.

List Price\$6.00

HINCKLEY-MYERS AXLE GEAR ARBOR

For Ford Cars



Machined from one solid piece of steel, neatly knurled to insure a firm hand-hold. May be used in an arbor press or by hand for driving differential gear on axle shaft or for placing drive shaft bearing sleeve on pinion end. One of the most valuable time-saving tools in the Ford shop. Weight, 4 lbs.

List Price\$3.00

HINCKLEY-MYERS DRIVE SHAFT BEARING SLEEVE PULLER

For Ford Cars



Parts of Puller and Sleeve



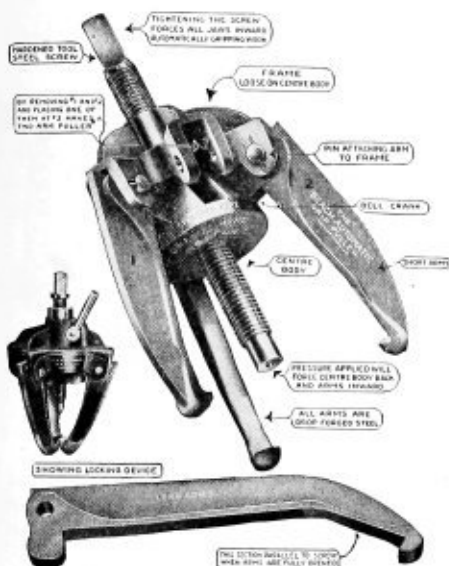
Showing Puller in Use

An attachment for use with Hinckley-Myers Gear Puller, as it enables drive shaft bearing sleeve to be removed in a moment's time. Illustration shows two collars which fit from end of sleeve with ring to prevent separating. Ring is knurled. Weight, 1 lb.

List Price\$2.00

GREB AUTOMATIC PULLER

A powerful 2 or 3 jaw type wheel Gear, etc., Puller. Made extra strong with positive grip that cannot unhook. Instantly adjustable to jaw.



Greb Automatic Grip Puller

No. 1 Senior Size—Designed for heavy work—a one man Puller with locking device. Capacity 1" to 18". Complete with two sets of jaws, 7" jaws open to 10", and 12" jaws to 18". Screw of hardened steel, 1" diameter, 14" long. (See Arbor Press Base Attachment.) Shipping weight 30 lbs.

List Price, Complete.....\$25.00

No. 2 Junior Size—Designed for all types of motors. Will remove magneto and pump shaft gears, couplings, etc. An efficient tool for all small work. Capacity 1" to 7". Complete with two sets of jaws, 3½" jaws open to 4" and 6" jaws to 7". Screw of hardened steel, ¾" in diameter, 7½" long. (See bearing and Race Attachment.) Shipping weight 4 lbs.

List Price, Complete.....\$12.00

No. 3 Intermediate Size—Designed to pull the average motor gears, such as timing, pinion, transmission, differential, and crank shaft gears, cardan and universal joints, pulleys and for general work. Capacity 1" to 12". Complete with two sets of jaws, 5" jaws open to 8", and 9½" jaws to 12". Screw of hardened steel, ¾" diameter, 10" long. (See Gear Attachments.) Shipping weight 18 lbs.

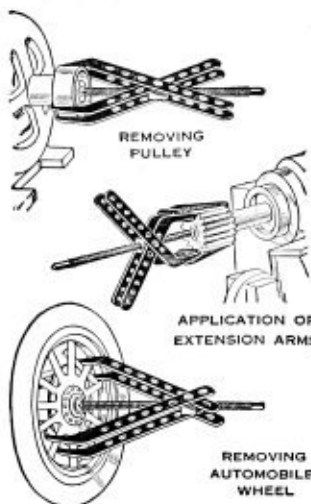
List Price, Complete.....\$18.00



Greb Arbor Press Base—Designed to be used with the three long jaws of No. 1 Puller. Comes complete with two V Blocks and one V cap. Makes desirable equipment for pressing off gears, bushings, bending pipes, straightening shafts, etc. It is a good Bench Plate. Width 14", Depth 2". Diameter of Center Opening 3½". Weight approx. 60 lbs.

List Price, Complete.....\$12.50

LITTLE GIANT GEAR AND WHEEL PULLER



Instantly adjustable to any size up to 13", developing a tremendous pull with minimum effort. Equipped with four puller prongs which eliminate all tendency to twist off. Especially adaptable in closely confined spaces. A blind center is supplied with each Little Giant Puller for use on small shafts or shafts without centers, eliminating spreading ends of shafts. Made of drop forged steel and requires no lever for holding against strain. We recommend the purchase of extension arms for gears, etc., less than 3" in diameter. Extension arms provide a 1-lb. pull per arm instead of regular 2 lb.

Little Giant Gear and Wheel Puller, without Extension Arms. List Price.....\$11.00

Little Giant Gear and Wheel Puller, with Extension Arms. List Price.....12.00

Extension Arms (if bought separately). List Price 2.00

ADJUSTABLE WHEEL PULLERS

For Fords.

Whitehouse No. 137.



A sturdy, inexpensive Wheel Puller made of malleable iron and guaranteed not to injure thread. Neat black enameled finish.

No. 137 Adjustable Wheel Pullers.

List Price Each, \$1.30

ADJUSTABLE WHEEL PULLERS

For Ford and Chevrolet.

Mossberg No. 660.



Extra strongly made of steel and intended to withstand the hardest kind of service. Cannot injure thread. Neat black rust proof finish.

No. 660 Adjustable Wheel

Puller. List Price, Each, \$1.40

Crane's Wheel and Gear Pullers

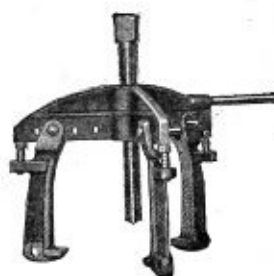
Powerful, efficient tools for quickly removing Automobile and Truck Wheels, Gears, Flywheels, Cams, Collars, Sprockets, etc., bending pipe and straightening Shafting.

Built throughout of the highest grade materials and especially designed to withstand the rough usage and abuse incidental to ordinary repair shop practice.

CRANE PULLERS are made in four different sizes; No. 0, No. 2, No. 3, and No. 3x; and three styles; Two-Arm Pullers, Three Arm Pullers and a combined Two-Arm and Three-Arm style called Crowfoot Pullers.



Two-Arm Puller



Three-Arm Puller



Crowfoot Puller

No. 0 PULLERS

For small, light work, such as timing gears, etc. Made in the Two-Arm style only. Takes diameters up to 6 inches. Equipped with one set of 3-inch Locking Arms.

No. 0 Two-Arm Puller.....Weight boxed, 3½ lbs. \$3.00

No. 2 PULLERS

Regular Garage size, for Fords and medium weight cars. Made in all three styles. Takes diameters up to 11 inches. Equipped with one set of 6-inch Locking Arms, one set of 10-inch Locking Arms, or one set of 6-inch and one set of 10-inch Locking Arms.

	Wt. boxed	6" Arms	Wt. boxed	10" Arms	Wt. boxed	6" & 10" Arms
No. 2 Two-Arm Puller.....	14½ lb.	\$ 7.30	16¼ lb.	\$ 8.30	20½ lb.	\$11.00
No. 2 Three-Arm Puller.....	20 lb.	9.45	22½ lb.	10.95	29 lb.	15.00
No. 2 Crowfoot Puller.....	21½ lb.	10.45	24 lb.	11.95	30½ lb.	16.00

No. 3 PULLERS

Heavy car and truck size. Made in all three styles. Takes diameters up to 16 inches. Equipped with one set of 7-inch Locking Arms, one set of 11-inch Locking Arms, or one set of 7-inch and one set of 11-inch Locking Arms.

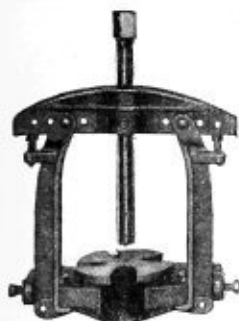
	Wt. boxed	7" Arms	Wt. boxed	11" Arms	Wt. boxed	7" & 11" Arms
No. 3 Two-Arm Puller.....	24 lb.	\$ 8.80	25½ lb.	\$ 9.80	31½ lb.	\$13.00
No. 3 Three-Arm Puller.....	32 lb.	11.70	35 lb.	13.20	44 lb.	18.00
No. 3 Crowfoot Puller.....	35 lb.	13.70	38 lb.	15.20	47 lb.	20.00

No. 3X PULLERS

Extra large size for work of large diameter. Made in Two-Arm and Three-Arm styles only. Two-Arm puller takes diameters up to 20 inches, Three-Arm Puller up to 26 inches. Have same Arm equipment as regular No. 3 tools.

	Wt. boxed	7" Arms	Wt. boxed	11" Arms	Wt. boxed	7" & 11" Arms
No. 3X Two-Arm Puller.....	27½ lb.	\$11.80	29½ lb.	\$12.80	35½ lb.	\$16.00
No. 3X Three-Arm Puller.....	63 lb.	21.70	66 lb.	23.20	74½ lb.	28.00

Special Attachments for Crane Pullers



Arbor Press
Base Attachment



Stud Fork
Attachment



Pipe Bending
Attachment



Heavy Truck Wheel
Attachment

ARBOR PRESS BASE ATTACHMENT

Makes an extremely powerful Arbor Press with a Two-Arm, or a Crowfoot Puller. Bolts to the bench and Puller can be attached in a moment by means of two casehardened set screws.

No. 2 Arbor Press Base.....	Wt. boxed, 17 lb., Attachment only \$ 8.00
No. 3 Arbor Press Base.....	Wt. boxed, 36 lb., Attachment only 12.50

STUD FORK ATTACHMENT

Used with any style Puller for removing solid web Flywheels, Gears, etc. Studs used are headless, casehardened set screws.

No. 0 Stud Fork (Two Arms).....	Wt. boxed, 1/4 lb., Each \$.80
No. 2 Stud Fork (Two Arms).....	Wt. boxed, 3/4 lb., Each 1.60
No. 3 Stud Fork (Two Arms).....	Wt. boxed, 1 1/4 lb., Each 2.40
No. 2 Stud Fork (Three Arms).....	Each 2.40
No. 3 Stud Fork (Three Arms).....	Each 3.60

PIPE BENDING ATTACHMENT

For use with a Two-Arm, or Crowfoot Puller for bending Pipe, straightening Shafting, and removing Universal Joint Yokes.

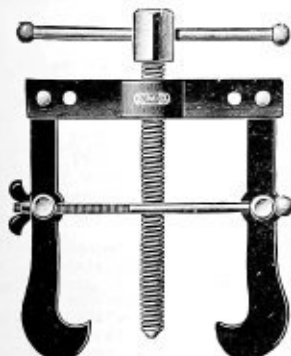
No. 2 Pipe Bending Attachment.....	Wt. boxed, 7 lb., Attachment only \$3.00
No. 3 Pipe Bending Attachment.....	Wt. boxed, 10 1/2 lb., Attachment only 4.00

HEAVY TRUCK WHEEL ATTACHMENT

For removing heavy spoked Wheels. Used with all styles of Pullers.

No. 2 Two-Arm Attachment.....	Wt. boxed, 7 1/2 lb., Attachment only \$5.00
No. 2 Three-Arm Attachment.....	Wt. boxed, 11 lb., Attachment only 7.50
No. 3 Two-Arm Attachment.....	Wt. boxed, 12 lb., Attachment only 6.00
No. 3 Three-Arm Attachment.....	Wt. boxed, 13 lb., Attachment only 9.00

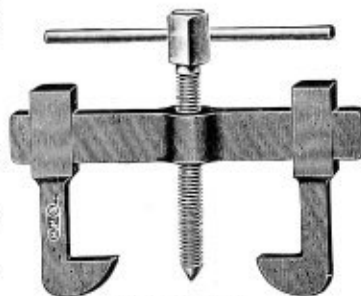
B-M GEAR, WHEEL AND COUPLING PULLERS



No. 5.

Yoke and hooks drop forged from best quality steel. Powerful and efficient under all conditions. Nos. 7 and 8 for sliding arms adjustable for width.

No. 5—Width of yoke, 6 1/2"; spread of hooks, 1" to 7"; length of worm screw, 8". List Price	\$3.00
No. 7—Maximum reach, 2 3/8"; spread arms, 6 1/2". List Price.....	3.50
No. 8—Reach, 5"; spread inside arms, 6 1/2". List Price.....	4.75



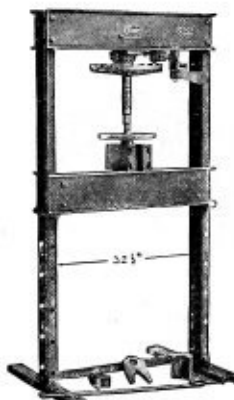
Nos. 7 and 8.

GARAGE *Manley* EQUIPMENT

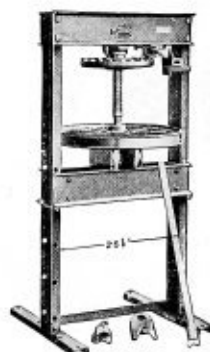
Manley 22-Ton Garage Presses



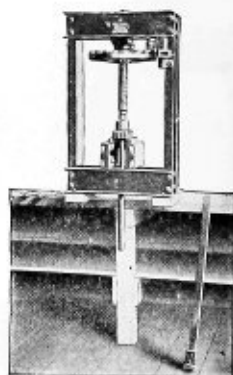
42 Inch Press
Weight, 475 lbs.
No. 1—Price, \$110.00



32 Inch Press
Weight, 425 lbs.
No. 2—Price, \$99.00



26 Inch Press
Weight, 325 lbs.
No. 3—Price, \$88.00



Bench Press
Price, \$63.80. Wt., 250 lbs.
No. 4.

The Manley Garage Presses have been designed and developed especially for auto repair work, and have certain exclusive features, range, capacity and adaptability not even approached by any other Press. They are designed to handle auto repair work in the quickest and best possible way with the least effort.

Every garage needs a Press. The shop handling small car work requires a Press with pressure equal to that used by the largest truck agency, but they can get along with a press large enough to handle smaller size work.

The Manley line of Presses offers the Auto Repairman opportunity to select the size of Press, in keeping with his class of work and at corresponding difference in price.

Manley Presses are ALL 22 Ton Presses, and all have the exclusive Manley features, High Power Leverage; High Speed—High Power Leverage; the Exposed Screw which may be struck in extreme cases when pressure fails; Quick Changing Tables; Bolted Construction; etc.

The only difference is size, not pressure.

They are built throughout of heavy steel channels rigidly bolted together.

The Exclusive features of all Manley Presses are as follows:—

High Power ratchet leverage of 2200-5000 to 1 for heavy work, powerful—gives tremendous pressure. Change in leverage instantly made (no bolts to remove) to the

High Speed—High Power Sensitive leverage of 1000-1 for light work quick—saves time, effort and damage to work. Especially desirable for Straightening Work.

Horizontal Stroke—more powerful. A man can pull more than his weight.

42 Inch Press takes in truck wheel with solid tire.

Tables are a Unit Construction, and position is quickly changed by removing two pins. No bolts or nuts. Have wide surface to properly support work.

Screw 2 in. in diameter, 4 pitch Acme thread, 12 in. travel and does not revolve.

Channel Blocking is braced.

"V" Face Plate automatically adjusts itself to any size shaft or hub. Bolted Construction, possible to admit frame, etc., under screw to straighten.

Screw exposed at top—may be struck a blow in extreme cases when pressure alone fails.

Test Centers converting any Manley Press into Straightening Press can be had at small cost. See illustration and description.

Rack and Pinion High Speed Press can also be purchased for attachment on any Manley Press. See description.

42 Inch and 32 Inch Presses take work 46 in. long. 26 Inch Press takes work 38 in. long.

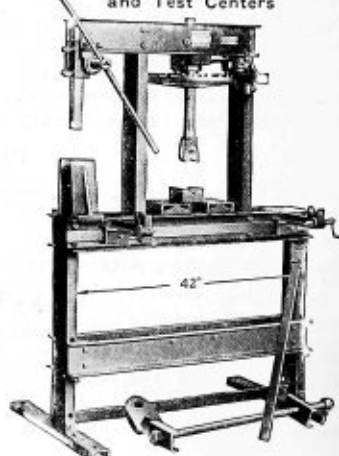
Complete equipment furnished with each press, as follows:

Operating Lever; 2 Braced Channel Blocks; "V" Face Plate with capacity up to 3 inches; "V" Nose for Screw; Vise Block; Extension Piece for Screw for Lower Table Work; Threaded Tie-Rod.

32 Inch and 26 Inch Presses have same equipment with exception of Tie-Rod and Extension Piece for Screw, which are unnecessary.

42 INCH 22-TON PRESS

Equipped with Rack and Pinion Press Attachment and Test Centers



This High Speed Rack and Pinion Press may be had on any Manley Press shown on this page.

For light work, bushing, pins, etc., it is invaluable.

Capacity—Takes work up to 20 in. in diameter.

Leverage—4 to 1. One man can exert 3 1/2 to 5 tons pressure.

Additional Price on Any

Manley Press—\$33.00

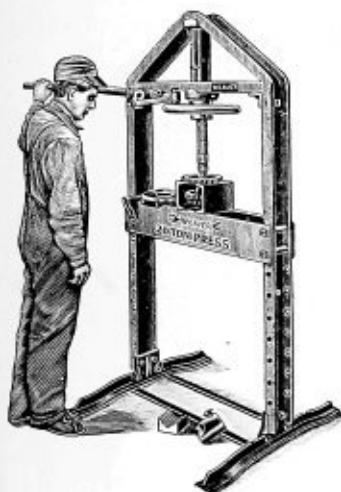
TEST CENTERS shown above can be had as an attachment on any Manley Press. Indispensable for Straightening work.

Provided with 2—60 degree centers, one fixed, other adjustable.

Takes work 20 in. in diameter and up to 42 in. length between centers and any length on V-Blocks, which are furnished because most automobile work has no center holes. No. 49 Price—13.20.

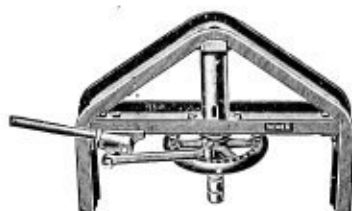
WEAVER FORCING PRESS

Capacity 20 Tons



Designed for handling all auto and truck repair work, such as pressing bushings, gears, straightening axles, shafts, etc. Its construction is such that it may be used for an endless variety of work by moving table to any desired position by loosening bolts. A leverage of either 1,500 to 1, or 3,000 to 1 is obtainable by shifting the rocker pin of the plunger arm to the center socket in the fulcrum block. For light

work the hand wheel is powerful enough. A quick release feature is incorporated by a simple cam construction in the thrust bearing, enabling the maximum 20-ton pressure to be instantly released by one reverse stroke of the lever. Hand wheel is mounted on ball bearings for easy operation. Additional strength at the vital point of the press is provided by the extremely long bearing of the wheel of the screw which is $4\frac{1}{2}$ " threaded the entire length.



Specifications.—Frame one-piece heavy 5" channel steel; hand wheel 15" in diameter; screw, 2" in diameter; up and down range of screw, 12". Width between frame uprights, 32" or 42".

Height over all, 72". Floor space required, 36" x 36". Maximum capacity, 28 tons. Shipping weight, 435 lbs.

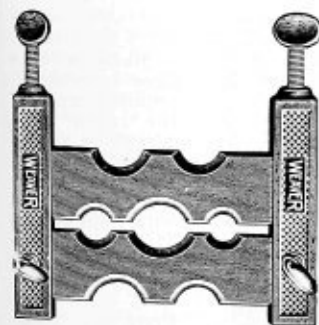
Equipment.—One pair of vise blocks for holding round and irregular parts; two channel blocks for supporting gears, etc., when being pressed on or off shaft; two blocks to be attached to either side of bolster where a very wide bearing for straightening large heavy shafts, etc., is needed.

List Price, 32" width, as above described.....\$110.00

List Price, 42" width, as above described..... 135.00

WEAVER PULLER CLAMP

For Weaver Forcing Press



Intended for use with the Weaver 20-Ton Forcing Press, for handling small delicate work such as pressing on small gears or ball races without possibility of injury. The blades of the Clamp are equipped with various sized notches, the sides of which are beveled. Blades operate in slots in the side brackets

and are forced into contact with the desired part by means of a heavy thumb screw.

Construction.—The blades or jaws are made of high quality spring steel, supported by strong, heavy side brackets, equipped with drop forged thumb screws. Made in two sizes identical in design and principle.

Smaller size, 9" Plate. Shipping Weight, 24 lbs.

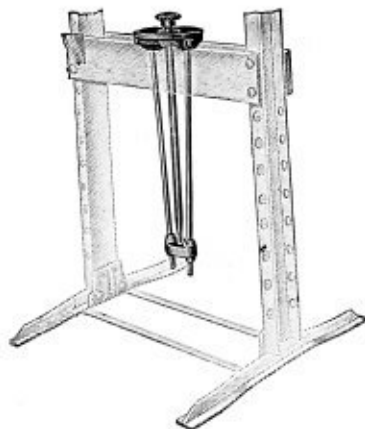
List Price\$ 6.00

Large size, 16" Plate. Shipping Weight, 24 lbs.

List Price 10.00

WEAVER REAR AXLE ATTACHMENT

For Weaver Forcing Press



Designed for use with the Weaver Forcing Press and especially useful in shops handling Ford repair work or for other jobs where a long shaft must be pressed. The construction of this device permits the use of any length $\frac{5}{8}$ " side rods if the work handled makes this necessary. As the Weaver Rear Axle Attachment adds considerable

strain when in use, the regular face blade furnished with the Weaver Forcing Press is not designed to accommodate this Attachment, and the price of the Weaver Rear Axle Attachment includes an extra heavy face blade.

Specifications.—Side rods, $\frac{5}{8}$ " high, carbon steel, 36" long. Support block at base or lower end of rod is cupped or concaved to provide a secure support for the lower end of the work and prevent slipping. Weight complete with Face Plate, 35 lbs.

List Price, Rear Axle Attachment, with Extra Heavy Face Plate.....\$10.00

List Price, Rear Axle Attachment, without Face Plate 5.00

GEIER STRAIGHTENING PRESSES



Made in four sizes covering all requirements for a powerful, accurate-working press. Body castings are heavily reinforced to resist working strains and insure absolute rigidity. Beds are plain with groove in which adjustable "V" blocks are easily movable to accommodate work at various lengths. Center brackets sliding on groove shaft are adjustable and cannot get out of alignment. Pressure screws are high carbon steel highly tempered. Thrust block best machinery steel case hardened; adjustable to centers hardened tool steel. Bracket supporting center shaft may be used as steady rest for testing work.

No. 1 Straightening Press

Capacity—Will bend or straighten stock up to 2" diameter. Height of body casting, 13". Length of bed, 15". Maximum distance between centers, 40". Centering shaft, 1 1/4" diameter, 40" long. Lever, 7/8" diameter, 28" long. Screw, 1 3/8" diameter. Net weight, 135 lbs.

List Price,\$50.00

No. 2 Straightening Press

Capacity—Will bend or straighten stock up to 2 1/2" diameter. Height of body casting, 16". Length of bed, 20". Maximum distance between centers, 40". Centering shaft, 1 1/2" diameter, 49" long. Lever 1" diameter, 34 1/2" long. Screw, 1 3/4" diameter. Hand wheel, 11" diameter. Net weight, 265 lbs.

No. 3 Straightening Press

The most popular size for automobile repair shops, etc.

Capacity—Will bend or straighten stock up to 3 1/2" diameter, or any crank shaft not over 52" long, that will swing within 10" circle. Height of body castings, 23 1/2". Length of bed, 34". Maximum distance between centers, 53". Distance from center of screw to body, 5 1/4". Centering shaft, 1 3/4" diameter, 64" long. Lever, 1" diameter, 36" long. Screw, 2" diameter. Hand wheel, 11" diameter. Net weight 500 lbs.

List Price,\$120.00

No. 3-A Straightening Press

An extra powerful Press for the heaviest work.

Capacity—Will bend or straighten stock up to 3" diameter or any crank shaft not over 52" long that will swing within 10" circle. Develops over 50 tons pressure. Height of body castings, 24". Maximum opening between bed and screw, 10 1/2". Length of bed, 34". Maximum distance between centers, 53". Distance from center of screw to body, 5 1/4". Height of "V" blocks from bed, 4 1/4". Centering shaft, 1 3/4" diameter, 64" long. Lever, 1" diameter, 36" long. Pressure screw, 2" diameter. Hand wheel, 11" diameter. Net weight, 725 lbs.

List Price,\$180.00

GEIER ARBOR PRESSES

Strong, durable, and portable. Indispensable for pressing bushings, arbors, small punching, etc. May be used as bench on bed of any lathe from 12" to 18" swing. Body castings extra heavy reinforced to prevent fracture. Ratchet pinion best machinery steel accurately finished and tested.



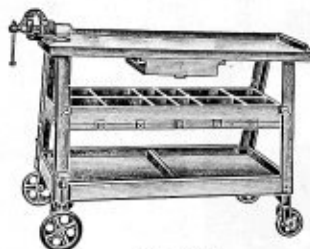
SPECIFICATIONS

	No. 2	No. 3
Height of body casting.....	15"	20"
Height over plate	7"	10 3/4"
Leverage	35-1	45-1
Length of lever	18"	23 1/2"
Maximum diameter of work.....	8"	12"
Largest opening in plate for arbor....	1"	1 1/2"
Length of rack.....	10"	14"
Diameter of rack.....	1 1/4"	1 3/4"
Net weight.....	65 lbs.	120 lbs.

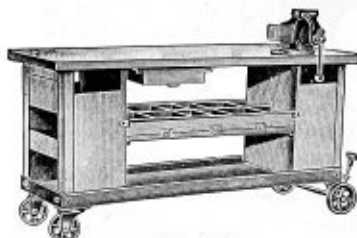
No. 2 Arbor Press, List Price,\$23.00

No. 3 Arbor Press, List Price,32.00

MANLEY PORTABLE WORK BENCHES



No. 201



No. 202

Made in two sizes covering all requirements of the repair shop, garage, or service station. Made extra strong of all-steel construction with solid oak top 2" thick for attaching vises, etc.; steel drawer, with shelf partitions and roller-bearing casters. A convenient locking device is provided for locking all four wheels, making bench immovable for heavy work.

No. 201 Bench—Size 34" long x 13" wide x 34" high.

Weight, 150 lbs. List Price, without Vise.....\$39.60

No. 202 Bench—Size for heavy work, 64" long x 20" wide x 34" high. Weight, 300 lbs.

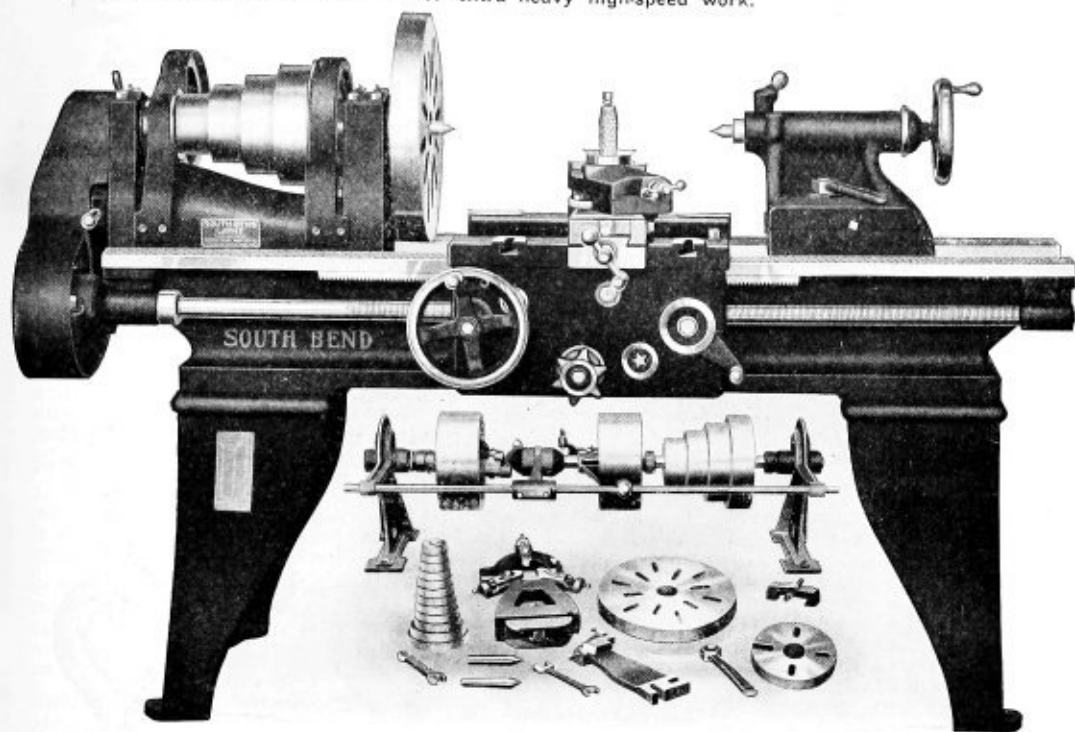
List Price, without Vise.....57.20

WHOLESALE DISTRIBUTORS

SOUTH BEND LATHES

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We recommend South Bend Lathes as being the best adapted for general machine shop work in garages and repair shops. Made in all sizes from 11" to 24" swing with any length bed from 4 to 12 ft. No. 27 is recommended for small work only. No. 34 for light machine shop work. No. 37 the size best adapted for automobile repair shops. Nos. 40, 45, and 47 are intended for extra heavy high-speed work.



Bed is rigid, cross-ribbed by heavy box braces cast in at short intervals its entire length; has three V's and one flat way for guiding the head stock, tail stock, and carriage. The rack is of steel, cut from the solid bar.

Head Stock is equipped with improved reverse. Spindle cone has four steps for a 2½" belt, which, with back gears, gives eight changes of spindle speeds. Spindle is of special carbon steel, accurately ground; has a 1½" hole its entire length. Centers conform to No. 3 Morse taper. Bearings are of heavy phosphor bronze, with ample oiling facilities, and are adjustable for wear.

Tail Stock is off-set to allow compound rest to swivel parallel to the bed and is provided with set-over for turning taper. Tail stock center is self-ejecting.

Carriage is strong, with wide, deep bridge; has T slots for clamping work for milling and boring. Has automatic cross-feed and automatic longitudi-

dinal feed, both of which are operated from front of apron and so arranged that only one feed can be engaged at a time. Both feeds are driven by a splined screw and worm so that the thread of the lead screw is used for thread cutting only.

Thread Cutting. The lathe is indexed to cut standard threads from 2 to 40, right or left, including 11½ pipe thread.

Graduation. The compound rest is graduated in degrees. The cross-feed screw has a graduated micrometer collar reading in one-thousandths of an inch.

Equipment, as shown in cut, is included in the price and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, a set of feed gears, gear guards, necessary wrenches and double-friction counter-shaft.

No. of Lathe	Swing Over Bed	Length of Bed	Distance Between Centers	Swing Over Carriage	Counter-Speed, R.P.M.	Approx. Wt. Long Legs Crated
27-A	11½ in.	4 ft.	24 in.	7½ in.	275	600 lbs.
27-B	11½ in.	5 ft.	36 in.	7½ in.	275	650 lbs.
34-B	13½ in.	5 ft.	30 in.	9 in.	275	1000 lbs.
34-C	13½ in.	6 ft.	42 in.	9 in.	275	1050 lbs.
34-D	13½ in.	7 ft.	54 in.	9 in.	275	1100 lbs.
34-E	13½ in.	8 ft.	66 in.	9 in.	275	1150 lbs.
37-C	15½ in.	6 ft.	39 in.	10½ in.	250	1425 lbs.
37-D	15½ in.	7 ft.	51 in.	10½ in.	250	1500 lbs.
37-E	15½ in.	8 ft.	63 in.	10½ in.	250	1650 lbs.
37-G	15½ in.	10 ft.	87 in.	10½ in.	250	1900 lbs.

No. of Lathe	Swing Over Bed	Length of Bed	Distance Between Centers	Swing Over Carriage	Counter-Speed, R.P.M.	Approx. Wt. Long Legs Crated
40-C	16½ in.	6 ft.	36 in.	11½ in.	225	1700 lbs.
40-D	16½ in.	7 ft.	48 in.	11½ in.	225	1750 lbs.
40-E	16½ in.	8 ft.	60 in.	11½ in.	225	1825 lbs.
40-G	16½ in.	10 ft.	84 in.	11½ in.	225	2025 lbs.
40-H	16½ in.	12 ft.	108 in.	11½ in.	225	2250 lbs.
45-D	18½ in.	7 ft.	43 in.	12½ in.	200	2325 lbs.
45-E	18½ in.	8 ft.	55 in.	12½ in.	200	2450 lbs.
45-G	18½ in.	10 ft.	79 in.	12½ in.	200	2550 lbs.
45-H	18½ in.	12 ft.	103 in.	12½ in.	200	2750 lbs.

EXTRAS.—The Nos. 34, 37, 40, and 40-C Lathes may be supplied at extra cost with Milling and Key-Way Cutting Attachment. Raising Blocks so lathe will turn and bore 18", 20", 22" or 23" swing, and Taper Attachment. Extras, except Taper Attachment, are interchangeable and may be attached after lathe has left the factory. Lathe with 12-ft. bed, equipped with Center Leg.

FULL INFORMATION AND PRICES ON APPLICATION.

ARMSTRONG LATHE TOOL HOLDERS

We Carry in Stock a Complete Line of Garage and Machine Shop Tools. If you don't find listed exactly what you need—Ask or Write for Full Information.



STRAIGHT SHANK TYPE

Complete with One High Speed Steel Cutter, Ground to Shape of Wrench.

Type	Size of Holder	Size of Cutter	Complete
OO-S	$\frac{1}{8}$ x $\frac{3}{4}$ x $4\frac{1}{2}$ "	$\frac{3}{8}$ " sq.	\$2.40
O-S	$\frac{3}{8}$ x $\frac{7}{8}$ x 5"	$\frac{1}{4}$ " sq.	2.55
1-S	$\frac{1}{2}$ x $1\frac{1}{8}$ x 6"	$\frac{1}{2}$ " sq.	2.85
2-S	$\frac{5}{8}$ x $1\frac{3}{8}$ x 7"	$\frac{3}{8}$ " sq.	3.60
3-S	$\frac{3}{4}$ x $1\frac{5}{8}$ x 8"	$\frac{7}{8}$ " sq.	4.80



OFFSET SHANK SIDE TOOL

Complete with One Cutter and Wrench. "L" and "R" designate Left or Right.

No.	Size of Shank	List Price Complete
69L or 69R	$\frac{1}{8}$ x $\frac{3}{4}$ "	\$3.20
70L or 70R	$\frac{3}{8}$ x $\frac{7}{8}$ "	3.55
71L or 71R	$\frac{1}{2}$ x $1\frac{1}{8}$ "	4.00
72L or 72R	$\frac{5}{8}$ x $1\frac{3}{8}$ "	5.00
73L or 73R	$\frac{3}{4}$ x $1\frac{5}{8}$ "	6.70



CUTTING OFF TOOL

Price includes One Blade and Wrench.

Type	Size of Holder	Size of Cutter	List Price Complete
19	$\frac{1}{8}$ x $\frac{3}{4}$ x $4\frac{1}{2}$ "	$5/64$ x $\frac{1}{2}$ "	\$2.55
20	$\frac{3}{8}$ x $\frac{7}{8}$ x 5"	$3/32$ x $\frac{5}{8}$ "	2.55
21	$\frac{1}{2}$ x $1\frac{1}{8}$ x 6"	$\frac{1}{8}$ x $\frac{3}{4}$ "	2.85
22	$\frac{5}{8}$ x $1\frac{3}{8}$ x 7"	$\frac{1}{8}$ x 70"	3.65



THREADING TOOLS

Price includes One Single-Point Sharp V Cutter and Wrench.

No.	Size of Holder	Price, Each, Complete With Carbon Steel Cutter	Complete With High Speed Cutter
OOT	$\frac{1}{8}$ x $\frac{3}{4}$ x 5"	\$3.00	\$3.60
50	$\frac{3}{8}$ x $\frac{7}{8}$ x 5"	3.00	3.65
51	$\frac{1}{2}$ x $1\frac{1}{8}$ x 6"	3.65	4.45
52	$\frac{5}{8}$ x $1\frac{3}{8}$ x 7"	4.65	5.65



BORING TOOLS

Complete with Holder and Bar with Straight and 45° End Caps, 2 Cutters ground for boring, and Double-Head Wrench.

No.	Size of Shank	Diam. Bar	Size of Cutter	List Price Complete
OOB	$\frac{1}{8}$ x $\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{1}{8}$ " sq.	\$4.35
8	$\frac{3}{8}$ x $\frac{7}{8}$ "	$\frac{3}{8}$ "	$\frac{1}{8}$ " sq.	4.35
9	$\frac{1}{2}$ x $1\frac{1}{8}$ "	$\frac{3}{8}$ "	$\frac{1}{4}$ " sq.	5.15
10	$\frac{5}{8}$ x $1\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{1}{4}$ " sq.	6.80

STRAIGHT OR BENT TAIL LATHE DOGS

With Square Head Screws, Drop Forged Steel.



Prices Complete without Wrench

Prices Complete without Wrench

No.	Capacity	Price Complete without Wrench	No.	Capacity	Price Complete without Wrench
21	$\frac{3}{8}$ "	\$.70	25	$1\frac{1}{4}$ "	\$1.05
22	$\frac{1}{2}$ "	.75	26	$1\frac{1}{2}$ "	1.35
23	$\frac{3}{4}$ "	.80	27	$1\frac{3}{8}$ "	1.60
24	1"	.95	28	2"	1.85

OFFSET TOOL HOLDER

Complete with Two Self-Hardening Cutters Ground to Shape, and Wrench.

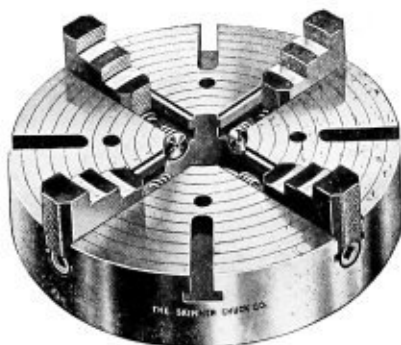
"L" and "R" designate Left and Right.



No.	Size of Holder	Size of Cutter	List Price Complete
OO-L or OO-R	$\frac{1}{8}$ x $\frac{3}{4}$ x $4\frac{1}{2}$ "	$\frac{1}{8}$ " sq.	\$2.40
O-L or O-R	$\frac{3}{8}$ x $\frac{7}{8}$ x 5"	$\frac{3}{4}$ " sq.	2.55
1-L or 1-R	$\frac{1}{2}$ x $1\frac{1}{8}$ x 6"	$\frac{1}{2}$ " sq.	2.85
2-L or 2-R	$\frac{5}{8}$ x $1\frac{3}{8}$ x 7"	$\frac{5}{8}$ " sq.	3.60
3-L or 3-R	$\frac{3}{4}$ x $1\frac{5}{8}$ x 8"	$\frac{7}{8}$ " sq.	4.80

SKINNER LATHE CHUCKS

With Four Solid Reversible Jaws



BODY—A single casting, well proportioned, of great strength, and highly finished, the face being ground true to straight edge, and accurately graduated in inches, the larger sizes being very heavy. 8" and smaller have solid face. 9" and 10" have openings in the face between the jaws. 1" to 16" have T slots in the face, as shown in cut. 18" and larger have T slots and openings in the face.

JAWS—The jaws are made of steel and thoroughly case hardened, and have raised and ground steps. They are reversed by running off the screws at the periphery and turning end for end.

SCREWS—The screws are made of a fine quality of steel, are of large diameter with a heavy square thread, are nicely fitted to the bearings, and are threaded the full length, giving a long range of adjustment to the jaws.

BEARINGS—Hardened steel thrust bearings for the jaw adjusting screws.

FITTING TO THE LATHE—The chuck is provided with a recess in the back, to which a face plate is fitted, this plate also being fitted to the lathe or machine spindle. It is never furnished except as an extra. We are prepared to furnish when desired rough face plate casting, or make a finished face plate ready to attach to machine if favored with sample plate from machine to which Chuck is to be attached.

BOLTS—A set of 4 bolts is furnished with each Chuck.

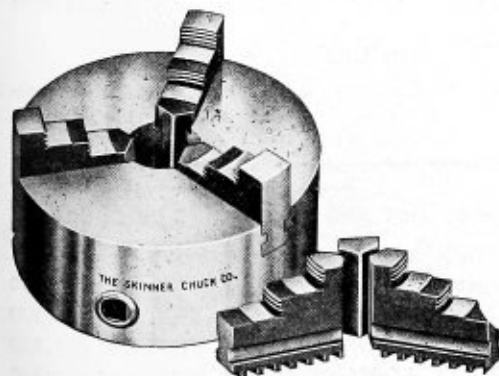
WRENCH—A T handle steel wrench of suitable proportion is furnished with each Chuck.

Independent Chucks with three jaws can be furnished if desired.

Iron Body Hardened Steel Bearings

Order by these Numbers	Rated Size of Chuck	Will Hold About	Approximate Shipping Weight	List Price
904	4½"	6"	10 lbs.	\$20.00
905	5"	7"	12 lbs.	21.00
906	6"	7½"	17 lbs.	22.00
907	7½"	8¾"	23 lbs.	25.00
908	8"	9½"	34 lbs.	26.00
909	9"	11½"	42 lbs.	28.00
910	10"	12½"	49 lbs.	30.00
912	12"	14½"	80 lbs.	35.00
914	14"	16½"	105 lbs.	40.00
915	15"	18"	122 lbs.	43.00
916	16"	19"	133 lbs.	46.00
918	18"	21"	175 lbs.	54.00
920	20"	23"	195 lbs.	62.00
921	21"	24"	215 lbs.	66.00
922	22"	25"	226 lbs.	70.00
924	24"	27"	270 lbs.	80.00

SKINNER UNIVERSAL GEARED SCROLL LATHE CHUCKS

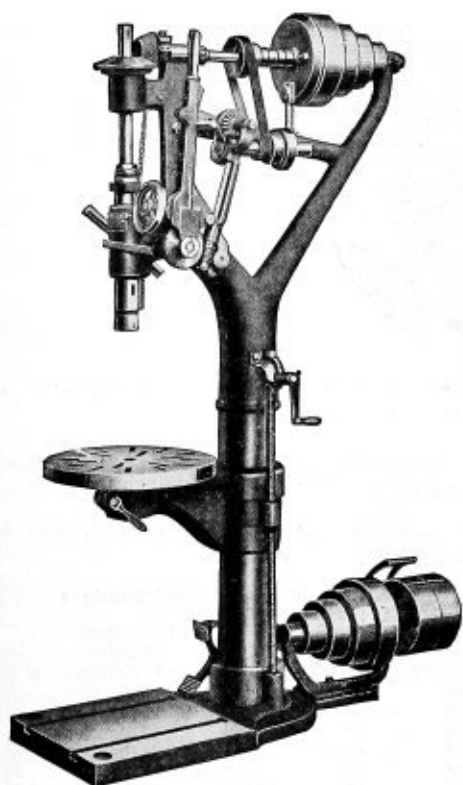


Chuck with Two Sets of Jaws

Fig. 3400—Three-Jaw

Order by these Nos.	Nominal Size	List Price, Style 34, 2 Sets Jaws	Order by these Nos.	Nominal Size	List Price, Style 34, 2 Sets Jaws
3404	3"	\$20.00	3410	10½"	\$44.00
3404	4"	22.00	3412	12"	52.00
3405	5"	24.00	3415	15"	70.00
3406	6"	28.00	3418	18"	92.00
3407	7½"	32.00	3421	21"	120.00
3409	9"	38.00	3424	24"	155.00

Silver 20 Inch Drill Press



The 20" Drill illustrated herewith is particularly designed to meet the needs of the high efficiency auto repair or machine shop, and includes all the latest improvements in design and construction. All needless parts have been eliminated, the drill being designed with two prime objects in view—greatest strength and largest number of uses.

The Plain Lever Feed is suited for all ordinary work that comes to a drill of this kind.

The Combined Lever and Wheel Feed permits either the lever or the wheel to be used without affecting the other.

The Power Feed and Automatic Stop requires only to be started and will stop automatically wherever set, at any required depth. This action is entirely independent of the wheel or the lever feed; either of these can be used in addition.

The Power Feed with Back Gearing and Automatic Stop, has, in addition to the features of the other drills, a back-gear mechanism. By means of this, four slow speeds are provided for heavier work, making a total of eight different speeds. This style is also furnished, when wanted, without power feed and automatic stop.

The Substantial Appearance Denotes Quality. New patterns throughout—every detail carefully worked out—materials the best procurable. Bevel gears are accurately cut from solid blanks, the cog rack is forged from steel and the teeth are milled to gauge.

Upper shaft has split bearings to take up any possible wear.

Table has easy up-and-down adjustment and swings to either side.

When the tool is wanted only for drilling, the countershaft for it is provided with tight and loose pulleys, 8" diameter by 2 3/4" face, and should make 325 revolutions per minute. For tapping and drilling a friction countershaft is required.

Drive Shaft turns 1 1/2 times to 1 turn of spindle.

SPECIFICATIONS—Silver's 20-inch Swing Drills

Fig. 862—With square base complete, drive shaft with tight and loose pulleys; weight crated 780 lbs.

Height	68 1/4	inches
Diameter of column	5 1/2	inches
Diameter table	16	inches
Diameter spindle	1 3/8	inches
Vertical travel of spindle	10	inches
Vertical travel of table	16	inches

Spindle bored for No. 3 Morse taper.

Distance from column to center of table	10 1/4	inches
Distance from spindle to base	41 1/8	inches
Distance from spindle to table	26 5/8	inches
Diameter of crown gear	5 3/8	inches
Diameter of bevel pinion	3 3/8	inches
Diameter large pulley on cone	9 1/4	inches
Diameter small pulley on cone	4	inches

Cone carries 2-inch belt

Tight and loose pulleys	8x 2 3/4	inches
Floor space, square base	46x16	inches
Floor space, round base	36x20	inches
List Price, crated for shipment		\$195.00

JACOBS IMPROVED DRILL CHUCKS



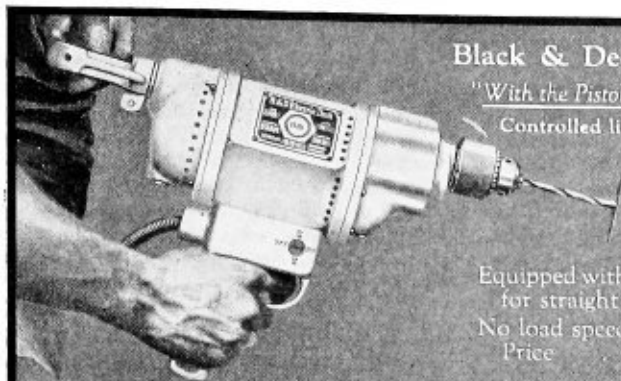
The Jacobs Improved Drill Chuck supplies the demand for a chuck with combined accuracy and strength, with an effective and convenient device for operating.

The Toothed Sleeve and Key make it especially efficient. By means of this key, a drill, tap or other tool can be easily and securely tightened; but as the action of the key differs from that of the ordinary spanner, in that it is not inclined to

revolve the spindle, this chuck is far more convenient and effective than others, which require the use of one hand for tightening and the other for holding the spindle.

PRICE LIST AND DIMENSIONS OF CHUCKS

No.	Style	Capacity	Weight	Length	Diam.	List
1	Regular	0—13/64"	0—5	1 1/2"	1 3/8"	\$5.50
2	Regular	0—21/64"	0—14 1/2	2 3/4"	1 1/2"	5.50
3	Regular	0—17/32"	2—5	3 1/2"	2 1/8"	9.00
4	Regular	1/8"—3/4"	4—5 1/2	4 1/2"	2 7/8"	18.00
5	Regular	3/8"—1"	6—9	5 5/8"	3 3/8"	25.00
6	Regular	0—1 1/2"	1—3 1/2	3 3/8"	1-29/32"	9.00



Black & Decker Portable Drills

"With the Pistol Grip and Trigger Switch"

Controlled like an Automatic Pistol

This is the drill *"With the pistol grip and trigger switch."* Without removing or changing position of hands current is switched on by pulling trigger. The next pull on the trigger switches current off.

This patented control prevents breakage of drill bits when operating switch. It increases speed and accuracy of work.

The spindle on these drills is offset for close corner drilling.

The motors are built specially by the General Electric Company and operate on direct current or 25, 40 or 60 cycle alternating current. They are cooled by forced circulation of air and will not overheat under the most severe conditions of operation.

Extremely light and easily handled.

Reduction gears packed in grease in grease-tight housing like an automobile transmission.

Sizes 0 to 3-16", 0 to 1-4" and 0 to 5-16"

Equipped with chuck for straight shank drills.

3-16"—No load speed, 1600 R. P. M.
Price **\$66.00**

1-4"—No load speed, 1200 R. P. M.
Price **\$66.00**

5-16"—Body Builders' Special.
No load speed, 2100 R. P. M.
Price **\$83.60**

0 to 3-8"

Equipped with spade handle and chuck for straight shank drills.

No load speed, 900 R. P. M.
Price **\$92.40**

0 to 1-2" and 0 to 9-16"

0 to 1-2"—Equipped with interchangeable spade handle and breast plate, detachable side handle, and chuck for straight shank drills.

0 to 9-16"—Equipped with interchangeable spade handle and breast plate, detachable side handle, and No. 1 Morse Taper Socket for taper shank drills.

No load speed, 600 R. P. M.
Price, 1-2" **\$110.00**

9-16" **\$114.40**

Feed screw \$5.00 extra

0 to 5-8"

Equipped with interchangeable spade handle and breast plate, detachable side handle, and chuck for straight shank drills.

No load speed, 600 R. P. M.
Price **\$123.20**

Feed screw \$5.00 extra

0 to 7-8"

Equipped with breast plate, feed screw, detachable side handle, and No. 2 Morse Taper Socket.

No load speed, 350 R. P. M.
Price **\$140.80**

Above prices for 110 volt circuits. Drills for 220 volt and 32 volt circuits, **\$4.40** extra

All Drills are complete with electric cable and attachment plug.

Size is capacity in steel.
These drills will bore 75% larger holes in hardwood.

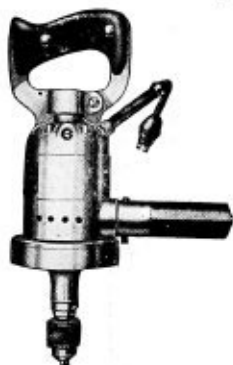
Arnold Portable Electric Drills

GUARANTEED

Every Arnold Electric Drill is guaranteed for one year against defective material or workmanship (if used on voltage specified and not overloaded beyond rated capacity). A new Drill free if it does not stand up under these conditions. Arnold Electric Drills are made with aluminum housing, giving minimum weight and maximum strength. Pinion on motor shaft is made with two idler gears running in an internal gear, Planetary type, giving maximum power transmission without side strain to produce friction. Shaft is ground tool steel running in anti-friction bearings. Supporting handle has pin-operated standard switch mounted in detachable casing for quick removal and is in a convenient position for operation without removal of hand from pistol grip. Pistol grip is removable, permitting the use of drills with a tapered socket in tail stock on lathe or as a drilling attachment on other tools. Powerful fan keeps motor cool. Large Universal Type Motor, 110-120 volts, 25 to 60 cycle. Housing is packed with heavy oil or grease, insuring perfect lubrication of all working parts. Jacobs Chuck included as standard equipment.

ARNOLD PORTABLE ELECTRIC DRILL

Type "A"



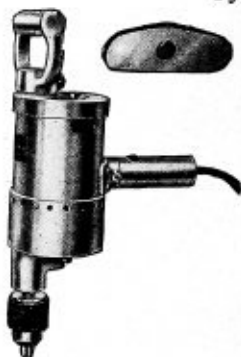
Length over all, 13"; weight, 6 lbs.; capacity, $\frac{1}{4}$ " in steel, $\frac{3}{8}$ " in aluminum or brass. Motor, Universal Type, 110-220 voltage, 25 to 60 cycle.

List Price.....\$55.00

For other current requiring special winding, add \$1.50 to list price.

ARNOLD PORTABLE ELECTRIC DRILL

Type "C"



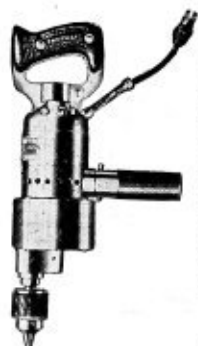
Mounted on Hess Bright ball-bearings and equipped with spade handle and breast plate, as shown in illustration. New Worm Gear Drive achieves maximum power transmission. Entire Drill easily disassembled for cleaning.

Length over all, 16 $\frac{1}{2}$ "; weight with chuck, 13 $\frac{1}{2}$ lbs.; capacity, $\frac{1}{2}$ " in steel, $\frac{3}{4}$ " in aluminum or brass. Motor, $\frac{3}{4}$ H. P., Universal Type, 110-120 volts. Jacobs Chuck, 10 ft. water-proof attachment cord and plug.

List Price\$106.00

ARNOLD PORTABLE ELECTRIC DRILL

Type "B"



This Drill is particularly adapted for garage and shop work and is recommended for use with the Arnold Valve Grinding Attachment. In addition to regular planetary gearing, a compound gearing system is furnished to prevent overloading of motor under the most adverse condition. Length over all, 13 $\frac{3}{8}$ "; weight, 7 lbs.; capacity, $\frac{3}{8}$ " in steel, $\frac{1}{2}$ " in aluminum or brass. Motor, Universal Type, 110-120 voltage, 25 to 60 cycle.

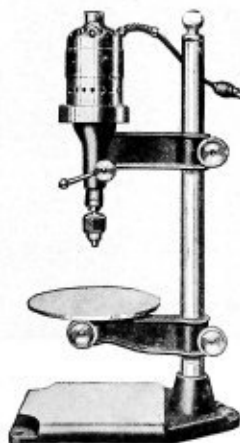
Equipment includes Jacobs Chuck and 10 ft. water-proof cord and attaching plug.

List Price\$66.00

For other currents add \$1.50 to list price.

PRECISION BENCH DRILL

No. 2



Equipped with rack and pinion feed and adjusted for accuracy. Drills vertical position only. Base, 12" x 8". Table, adjustable—distance from center of post, 4 $\frac{1}{2}$ "; diameter, 6 $\frac{1}{2}$ "; height, 23"; feed, 1 $\frac{3}{4}$ "; clearance from base to bottom of chuck, 11". Capacity, $\frac{1}{4}$ " in steel. Motor, Hamilton-Beach Universal Type, 110-220 volts, A. C. or D. C., 25 to 60 cycle. Jacobs Chuck and 10 ft. attachment cord with socket plug. Drill is not detachable from stand.

List Price\$110.00

WHOLESALE DISTRIBUTORS

299

BENCH STAND ATTACHMENT

For Types C, B and A Arnold Drills



Enable the Drill to be used either as a Portable Hand Drill or as a Bench Drill. Drill may be attached to stand in a moment by removing spade handle or breast plate and connecting screw feed with motor housing. Column of attachment has a solid steel bar, accurately ground, and base is machined and scraped, insuring an absolutely smooth surface.

Bench Stand Attachment only (without Drill). List Price, \$32.00

ARNOLD EMERY GRINDER ATTACHMENT



Attachment only



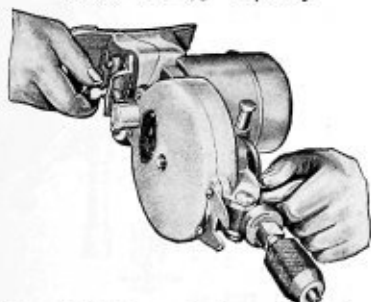
Attached to Type "B" Drill

Fits Type "B" Arnold Drill and may be used as portable grinder, or by means of bracket shown in illustration, permits attachment of the machine to bench as a small bench grinder. Simple in construction. Invaluable in any shop.

List Price\$13.00

TEMCO ELECTRIC DRILL

Model "B"— $\frac{3}{8}$ " Capacity



A light weight, low priced, evenly balanced, high speed Electric Drill, equipped with convenient switch and reversible motor. Strongly built. Complete with attachments listed below.

$\frac{3}{8}$ " Chuck. Speed, 600 R.P.M. Operates on either A. C. or D. C. current; 10 ft. Extension Cord and Attachment Plug. Length over all, including chuck, 15". Weight, 12 lbs.

In ordering, specify whether for use with 110-V. or 220-V. current.

Model "B" Temco Drill with regular equipment. List Price\$56.00

Model "B" Temco Drill with Jacobs Geared Chuck. List Price 58.00

ARNOLD VALVE GRINDER ATTACHMENT



Attached to Model "B" Drill



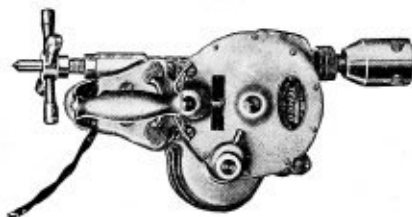
Valve Grinding Attachment

A simple, light-weight device for attachment to Types B or C Arnold Drill that insures accurate and rapid valve grinding. Oscillates 400 per minute—the correct speed for perfect valve grinding. Equipped with dust-proof, ball-thrust bearing, insuring smooth operation and eliminating chattering. Attachable or detachable in a moment's time.

Arnold Valve Grinding Attachment. List Price, \$10.00

TEMCO ELECTRIC DRILL

Model "C"— $\frac{1}{2}$ " Capacity



Equipped with two speeds and offset spindle, making it adaptable for drilling inaccessible jobs. Equipped with double motors which are reversible, giving additional power for very heavy work. Two speeds with conveniently placed change speed lever. Screw feed optional at slight additional cost.

$\frac{1}{2}$ " Chuck. Speeds, 250-500 R.P.M. Operates on either A. C. or D. C. current. Voltage, 110 or 220. Length of chuck, 14". Length with screw feed, 16". Weight, including chuck only, 21 lbs. Feed of feed screw, $2\frac{1}{2}$ ".

Regular equipment includes $\frac{1}{2}$ " Jacobs Geared Chuck for straight shank drills; 10 ft. Extension Cord and Attachment Plug and Handle.

Special equipment includes Feed Screw Attachment; Special Sleeve for attaching to drill; Spindle for use with No. 1 Morse Taper Drills.

Model "C" Temco Drill with regular equipment. List Price\$75.00

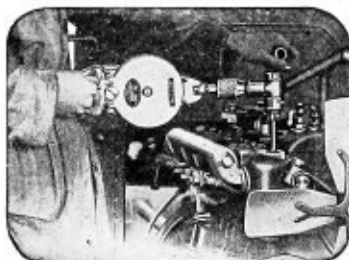
Screw Feed Attachment.....List Price, \$3.00 extra

No. 1 Morse Taper Socket.....List Price, 3.00 extra

Chuck for Wood Bits.....List Price, 3.00 extra

VALVE GRINDING ATTACHMENT

For Model "B" Temco Electric Drill

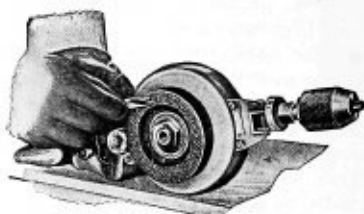


Operates from the chuck of the drill, giving an even oscillating movement required for a perfect valve seat. Positively no vibration or jar. This Valve Grinding Attachment should be purchased by every Temco Drill owner.

Valve Grinding Attachment. List Price, Each.....\$7.00

EMERY WHEEL ATTACHMENT

For Model "B" or "C" Temco Drills

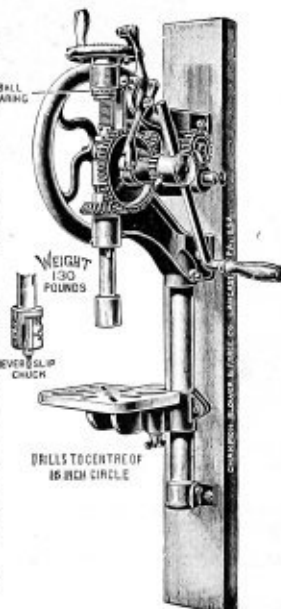


Converts the Temco Drill into a practical Emery Grinder at a nominal cost. Attached in a moment to the drill. It is invaluable for sharpening small tools, etc.

Emery Wheel Attachment. List Price, Each.....\$2.00

CHAMPION SELF-FEED POST DRILL**Ball Bearing**

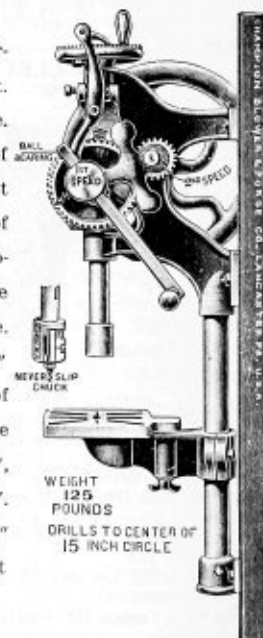
Constructed with three gears with double journaled bearings to each gear in order to give same turning direction of crank on both first and second speed. Automatic self-feed. Capacity 0" to 1 1/4" hole. Drills to center of 16" circle. Spindle 1 1/2"; diameter with up-and-down run of 3". Maximum distance from table to spindle, 9 1/2". Height of Drill, 46". Lathe turned and slotted table. Bearings ground out of solid metal, no babbitt used. Spindle equipped with end thrust ball bearings saving 20% to 50% of power. All parts interchangeable. Equipped with never slip Champion Chuck for 1/2" S. S. drills. Weight 130 lbs.



No. 88 Champion Post Drill. List Price.....\$27.00

CHAMPION SELF-FEED POST DRILL**No. 90**

Equipped with ball bearing spindle end thrust. Capacity 0" to 1" hole. Bearings ground out of solid metal, no babbitt used. Drills to center of 14 1/2" circle. Has automatic self-feed; lathe turned and slotted table. Spindle diameter, 1 1/8" with up-and-down run of 3". Maximum distance from table to spindle 10". Height of drill, 43". Spindle bored to take 1/2" S. S. drill bits. Weight 105 lbs.



No. 90 Champion Post Drill. List Price.....\$20.00

MILLERS FALLS BENCH DRILL PRESS

No. 210

Very similar to No. 216 but is equipped with hand feed only and without ball thrust bearings. Instant change speed. Two ratios 1½ to 1; 4 to 1. Capacity of chuck 0" to ½" Drills. Frame extra strong, absolutely rigid. Height over all 24". Weight boxed 27½ lbs. Net weight 22 lbs.



No. 210. List Price.....\$15.75

MILLERS FALLS BENCH DRILL PRESS

No. 216



Equipped with two rates of automatic feed or may be fed by hand. Has quick change speed, ball bearings, extensible crank, cut gears, pinions of steel. Ratios 1 to 1; 3 to 1. Chuck capacity 0" to ½". Ball thrust bearings. Table slotted to receive vise clamp or post rest; traverse of automatic feed 2¼"; vertical adjustment of table bracket 5¼"; height over all 28". Standard is extra strongly constructed for extreme rigidity. Weight boxed, 50 lbs. Net weight, 30 lbs.

No. 216. List Price.....\$24.65

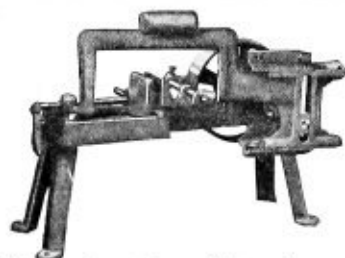
STAR POWER HACK SAW BLADES

Made of the same high quality tungsten steel with special tempering for speed work.

Size	Teeth Per Inch	List Price Per Dozen
12" x 5/8" x .032"	14	\$1.90
12" x 3/4" x .049"	10	2.70

Packed ½ or ¼ gross in pasteboard box.

E. & S. POWER HACK SAW



A high speed machine with sawing capacity of 4" x 4". Machine is 24" long, 6" wide and stands on 10" legs. Uses 9" hack saw blade driven by crank working between "V" bearings, insuring long life and strength. Equipped with sliding weight to give required sawing pressure and has automatic stop. Equipped with 10" x 2" crowned pulley. Weight, 68 lbs.

E. & S. Power Hack Saw. List Price.....\$25.00

POWER HACK SAW

Millers Falls No. 89

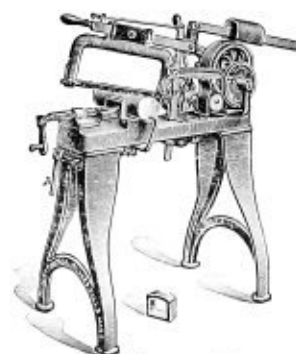


Saws all shapes and sizes up to 4½" diameter. Equipped with automatic stop and gravity feed by adjustable sliding weight. Speed 45 strokes per minute. Power required, ½ H. P. Uses 10", 11", or 12" blades. Floor space, 18" x 30". Distance from floor to top of bed, 28". Size of pulley, 13½" x 2½". Weight crated, 200 lbs. A high grade power hack saw that is giving excellent service.

No. 89 Power Hack Saw. List Price.....\$50.00

POWER HACK SAW

Millers Falls No. 90



Very similar to No. 89 Power Hack Saw, but equipped with gear drive, giving uniform steadiness to stroke. A patented device lifts saw frame slightly on return stroke and enables use of quick-return movement. Equipped with automatic stop. An attachment is provided which lifts blade a trifle above work when desired; and support on bed on cutting-off side of blade prevents breaking blade when cut is nearly finished. Adjusting screw in head allows taking up all wear on arm. Working parts are under bed, away from dirt or dust. Operates at speed of 60 strokes per minute; ½ H. P. required. Uses 12" blades only. Back geared 3 to 1. Height from floor to top of bed, 28". Floor space, 20" x 46". Size of pulley, 2" x 6". Cutting capacity, 5" x 5". Weight crated, 260 lbs.

No. 90 Power Hack Saw. List Price.....\$75.00

HINCKLEY-MYERS CYLINDER REBORING TOOLS

American Special Outfit.



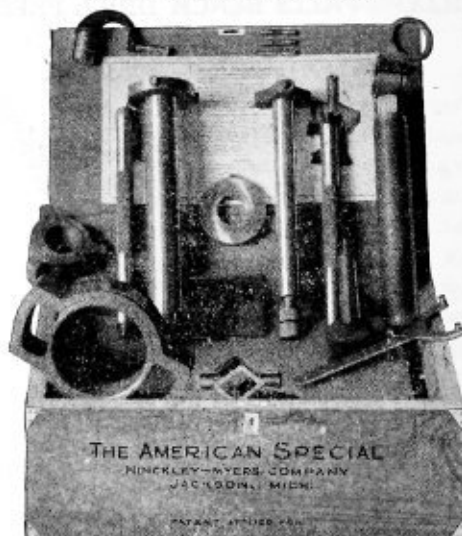
Will accurately rebores any cylinder from $3\frac{1}{8}$ " to $4\frac{1}{8}$ " diam. Cutter cannot possibly get out of alignment and is designed with boring bar held in perfect alignment at both top and bottom, insuring a straight even cylinder wall. Motors, with removable cylinder heads, can be rebored without removing motor from car. This outfit enables the repair shop to rebores cylinders on practically all the most popular cars such as Ford, Fordson, Dodge, Overland, Chevrolet, Nash, Continental Motors, etc., or of cylinders from $3\frac{1}{8}$ " to $4\frac{1}{8}$ " diam. Outfit includes the following:

- Two Adjustable Cutters.
- No. 1 with range of $3\frac{1}{8}$ " to $3\frac{5}{8}$ "; No. 2 with range of $3\frac{5}{8}$ " to $4\frac{1}{8}$ ".
- One Smooth tube for high speed drill press work.
- One Threaded tube for hand or drill press work.
- Two Bronze bushings with quick adjustment nuts.
- One Sizometer for setting adjustable cutters quickly and accurately.
- Three Extra pilot pins.
- One No. 3 Morse Taper Socket Wrench for drill press.
- Large cutter wrench for changing cutter heads.
- One Large Wrench for operating machine by hand.
- Packed in neat wood box with lock.
- Full instructions for operating machine are included with each outfit. Shipping weight 95 lbs.
- List Price..... \$137.50

HINCKLEY-MYERS No. A-2 CYLINDER REBORING MACHINE

Cylinder Reboring Machine.

- Range $3\frac{1}{8}$ " to $4\frac{1}{8}$ " cylinder diam., and will handle the majority of 4 cyl. cars in use today. For shops catering to small car work this outfit is ideal. Outfit includes the following:
- One No. 2 Adjustable cutter, range $3\frac{5}{8}$ " to $4\frac{1}{8}$ ".
- One Threaded tube for end or drill press work.
- One Wrench for hand operation.
- One No. 3 Morse taper wrench for drill press work.
- One Sizometer for adjusting cutter.
- Packed in neat wood box. Shipping weight 65 lbs.
- Full instructions are included with each outfit.
- List Price..... \$97.50

HINCKLEY-MYERS No. A-3 CYLINDER REBORING MACHINE

This machine is equipped with two solid adjustable cutters either for Ford and Fordson, Dodge and Overland, or any two sizes as desired ranging from $2\frac{5}{8}$ " to $4\frac{1}{8}$ " cyl. diam., or oversizes. This machine is particularly adapted for service stations and repair shops catering to repairs on one particular car. May be operated by drill press or by hand. Outfit consists of two solid cutters any size from $2\frac{5}{8}$ " to $4\frac{1}{8}$ " or oversizes.

- One Threaded Tube for hand or drill press work.
- One Wrench for hand operation.
- One No. 3 Morse Taper Shank for drill press work.
- Packed in neat wood box. Shipping weight 62 lbs.
- List Price..... \$100.00

DETAILS OF CONSTRUCTION OF HINCKLEY-MYERS CYLINDER REBORING TOOLS

Fig. 3.

Fig. 3 shows pilot centering boring bar as held in exact alignment at both top and bottom. Sizometer is an adaptation of the micrometer and enables the cutter to be adjusted to rebores within .001 of an inch, accuracy, heretofore unobtainable.

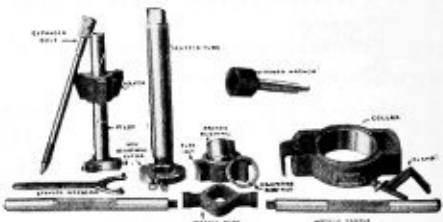
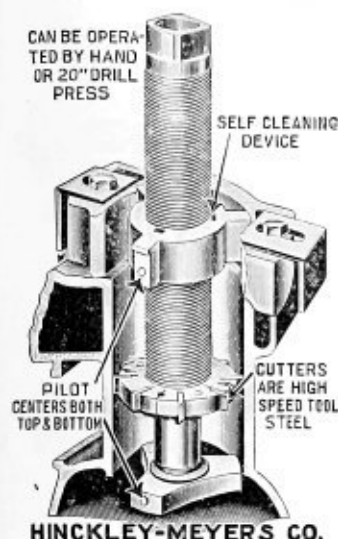


Fig. 3.

Fig. 3 shows Hinckley-Myers Reboring Tool Disassembled.

CONSTRUCTION OF HINCKLEY-MYERS CYLINDER REBORING TOOLS



HINCKLEY-MYERS CO.

Fig. 1.

Figs. 1 and 2 shows the simplicity and ease of adjustment of cutter which may be accurately adjusted by means of an ordinary screw driver either by the expert mechanic or inexperienced operator. Cutter is 3-blade type, proven to be the most satisfactory under all conditions. Hinckley-Myers Reboring Tools are recommended by the Ford Motor Co. service department. When cutter becomes dull we recommend that they be returned to factory for sharpening and adjustment at a cost of \$1.50.

HINCKLEY-MYERS CYLINDER BLOCK SUPPORTING FIXTURE

For Ford Cars.



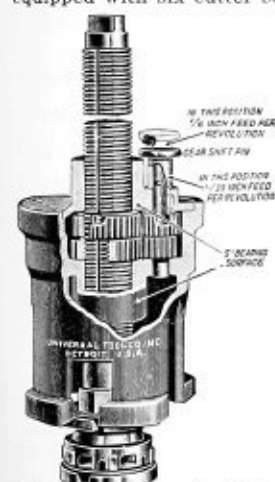
Fig. 2.

At the suggestion of the Ford Motor Co. this device was brought out to prevent cylinder block slipping or turning while reboring cylinders. Fixture is bolted to table of drill press and also acts as a guide. May be used with Ford or Fordson Cylinder Block. Weight 15 lbs.

Price List..... \$5.00

UNIVERSAL CYLINDER REBORING TOOLS

As its name implies, adjustable to handle a wide range of cylinder sizes. Its construction is so simple that no special experience or knowledge is required to make a perfect job. Cutter head is equipped with six cutter surfaces that are adjustable



Cut-open view showing heavy housing gear reduction arrangement, and large bearings.

to size in unison, therefore preventing misalignment and uneven reboring. A bevel expansion ring fits inside cylinder and bevel pilot head acts as a centralizing device. In addition an oversize "securing ring" is used which exactly follows in the cut and insures absolute rigidity and perfect centering. Badly scored cylinders do not affect the accuracy of this tool. The feed screw is made with square threads permitting screw to be journaled in bearings, preventing play and providing a rigid bearing of approximately 5". A change speed gear is used in connection with the screw feed so that the cutter mechanism which is directly connected with feed screw is rotated and automatically advanced through the cylinder by the movement of the screw. The rate of feed may be varied as desired from six turns to the inch to thirty turns to the inch. Its construction permits a heavy coarse thread on the feed screw lessening the wear upon the individual thread. Some types of cylinders have the cylinder block reset at the lower end of cylinders for connecting rod clearance. For this type of cylinders there is provided a second pilot or



centering ring which is also pushed through the cylinder by the cutter head. This centering ring is located at rear of cutters and cannot slip out of place until the cutters have passed entirely through cylinder, thus insuring an absolutely true cut under all conditions. The Universal Cylinder Reboring tool may be used either by hand or with a drill press; and on detachable head cylinders the reboring may be done without removing the cylinder block from the car. A particularly important feature of this reboring tool is its Universal adjustment which enables the operator to set the cutters at any desired size within .0005 of an inch; thus enabling the cylinder to be rebored to exactly fit pistons regardless of the oversize of the pistons.

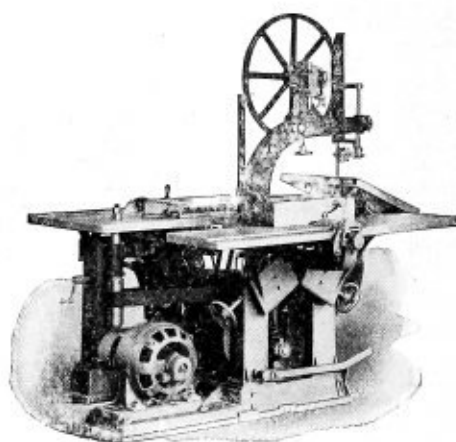
Each outfit is packed in handsome hardwood carrying case.

Range of Expansion.

List Price

No. 00—Fordson Tractor and Ford Model T—Special, Range of Expansion $3\frac{3}{4}$ to $4\frac{1}{8}$	\$140.00
No. 1—Ford Special, adjustable for all over size pistons	133.75
No. A-1—Dodge Bros. Special, adjustable for all over size pistons.....	140.00
No. 2— $2\frac{1}{2}$ to $3\frac{3}{4}$	160.50
No. 3— $3\frac{3}{8}$ to $4\frac{1}{8}$	160.50
No. 4— $3\frac{1}{2}$ to $5\frac{1}{8}$	160.50
No. 5— $2\frac{1}{2}$ to $5\frac{1}{8}$	240.75
Small head attachment for No. 3 machine Range of Expansion, $2\frac{1}{2}$ to $3\frac{1}{8}$	53.50
Small head attachment for No. 4 machine, Range of Expansion, $2\frac{1}{2}$ to $3\frac{1}{8}$	80.25

Famous No. 31 Universal Wood Worker



The most useful machine in the body-building shop.

Consists of a 12" or 16" Jointer, Adjustable Saw Table, with Circular Saw, capacity 5" stop. Equipped with tilting gauge for beveled or straight ripping, miter or straight work; shaper of single spindle, reversible type; starting, stopping and reversing being controlled by foot lever connected with large bevel frictions. Borer blades on saw table in convenient position, not interfering with saw.

Each attachment is operated independently without interference with either operator or other attachments. Convenient levers for starting and stopping attachment separately are provided.

Regular equipment includes one $\frac{3}{8}$ " saw blade; raising tongs and clamp; anti-friction roller guide above and plain guide below table; 1 drive belt, and 1 wrench for band saw. For Jointer—1 pair of separate knives with belts; tilting gauge; 2 hold-down springs; guard; 1 drive belt and wrench. With the Saw Table—1 12" cut-off saw and wrench; 1 tilting rip gauge; 2 miter cut-off gauges, and drive belt. With the Taper—1 pair 2" straight knives; collars; 1 wrench, and drive belt. With the Borer—1 drive belt.

As entire machine is self-contained no separate counter-shaft is required. Machine may be driven direct from motor. Motor base furnished at slight additional cost.

PRICES ON APPLICATION.

— We Carry the Largest Stock of —

**SPECIAL MACHINE SHOP AND GARAGE EQUIPMENT, AND SPECIAL
MACHINERY FOR AUTOMOBILE AND TRUCK REBUILDING,
BODY BUILDING, ETC., IN WESTERN PENNSYLVANIA**

Lack of space prevents our showing the complete line, but special information,
prices, etc., will be gladly furnished upon request.

CLIZBE COMBINATION BUFFERS AND GRINDERS

Nos. 10A and 10B



These two machines were designed especially for use in small shops where both a Buffer and Grinder are needed. The long extended bearing insures the rigidity of the buffing end. The bearings are wick oiling and Tool Rest is adjustable. Wheel Guard, which attaches to the back of the head, can be furnished for grinding end if so desired. Furnished

without Column for bench use. No. 10A machine furnished with Single Pulley only. No. 10B machine furnished with Tight and Loose Pulley.

Specifications	No. 10A	No. 10B
Distance between wheels.....	19"	21½"
Maximum Wheel size.....	10"x1½"	10"x1½"
Length of Spindle.....	28"	30"
Bore of Wheels.....	¾"	¾"
Shipping weight, Head & Stand	150 lbs.	165 lbs.
List Price, Head only.....	\$20.70	\$23.40
List Price, Stand only.....	20.15	24.30
List Price, Guards, each.....	2.35	2.35
List Price, Countershaft.....	13.30	

CLIZBE BENCH BUFFER

No. 90



A very satisfactory machine for light bench use, which can also be furnished with stand for mounting independent of

bench. Bearings are well babbitted and fitted with wick oiling arrangement as insurance against faulty lubrication.

Height to center of Spindle.....	10"
Length of Spindle.....	30"
Diameter Spindle in Bearing.....	¾"
Diameter on end.....	¾"
Size of Pulley.....	3" Diam., 2" Face
Distance between Wheels.....	25"
Net weight.....	34 lbs.
Shipping weight.....	46 lbs.
Length of Bearings.....	4"
List Price, Head only.....	\$15.30
List Price, Column only.....	12.60

CLIZBE STANDARD PATTERN GRINDER
No. 3

A very popular type of bench Grinder which can also be furnished with stand where desirable to mount machine independent of bench. Bearings are well babbitted and are fitted with wick oiling arrangement as insurance against faulty lubrication.

Tool Rests are adjustable.

Flanges are legal size, and machine is well finished in every respect. Wheel Guards which attach to top plate of column or to bench can be furnished with this machine.

Recommended Wheel size.....	10"x1½"
Bore of Wheel.....	1"
Distance between Wheels.....	10"
Size of Pulley.....	4"x3"
Length of Spindle.....	18"
List Price, Head only.....	\$15.30
List Price, Column only.....	14.75
List Price, Guards only.....	4.15
List Price, Counter only.....	13.30
Shipping weight of Head.....	45 lbs.
Shipping weight of Column.....	80 lbs.
Shipping weight of Guards.....	30 lbs.

CLIZBE BLACKSMITH AND GARAGE GRINDERS

Nos. C5 and 15



A very substantial type of Grinder for general Blacksmith and Garage use, which will also give very satisfactory service as a Buffer. Bearings are long and well babbitted and fitted with oil reservoir with dust-proof cap. Rests are easily adjusted or entirely removed. The exceptionally long distance between

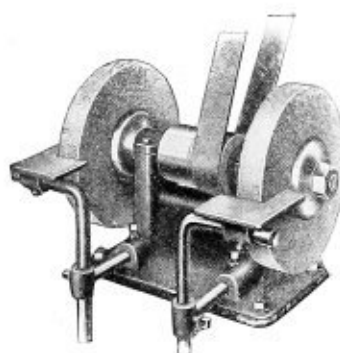
wheels for machines of these capacities makes these machines the most practical for general use, as it permits the operator to grind or buff unusually large pieces without coming in conflict with the stand. Nos. C5 and 15 can be furnished with either Single or Tight and Loose Pulleys, as desired.

Specifications	C5	15
Maximum Wheel size.....	12"x2½"	16"x3"
Recommended Wheel size.....	10"x2"	14"x2½"
Height of Spindle to Floor.....	30"	30"
Length of Spindle.....	27"	32"
Length of Bearings.....	4"	6"
Distance between Wheels.....	17"	22"
Weight Complete.....	100 lbs.	150 lbs.
Bore of Wheels.....	1"	1½"
List Price, with Rests.....	\$26.10	\$37.35
List Price, without Rests.....	24.65	32.75

IF THESE GRINDERS DO NOT MEET YOUR REQUIREMENTS, WRITE FOR MORE INFORMATION

GRINDER HEAD

Niagara No. 28



A small, sturdy grinder head for use in any repair shop, etc., where power is available. Castings best grade grey iron, with adjustable babbitted bearings and cricable steel shaft. Comes complete with one 7" fine and one 7" coarse carborundum wheel for general grinding purposes. Weight packed in wood box, 36 lbs.

List Price\$33.00

EMERY AND CARBORUNDUM GRINDING WHEELS

In ordering be sure to specify size arbor or hole in wheel, and whether Fine, Medium or Coarse grit.

Thickness of Wheels in Inches

Diameter Wheel	1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"
3	\$1.00	\$1.20	\$1.45	\$1.65	\$1.85	\$2.10	\$2.30
4	1.40	1.65	1.95	2.25	2.55	2.80	3.10
5	1.90	2.25	2.65	3.00	3.40	3.80	4.15
6	2.40	2.90	3.40	3.90	4.45	4.95	5.40
7	2.95	3.60	4.30	4.95	5.60	6.30	6.90
8	3.55	4.40	5.20	6.10	6.90	7.80	8.60
9	4.15	5.20	6.30	7.40	8.40	9.50	10.60
10	4.90	6.20	7.50	8.90	10.20	11.50	12.80

EMERY WHEEL DRESSER

B-M No. 40



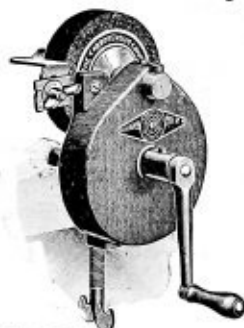
Needed in every shop. Keep your emery wheels dressed true and insure accurate tool grinding. Made with milled and hardened tool steel cutters and hardened steel bearings. Sold complete with extra set of cutters.

No. B-M 40 Emery Wheel Dresser.

List Price, Each.....\$1.25

CARBORUNDUM GRINDER

Niagara No. 1



A small compact, easy-running machine, equipped with adjustable tool rest and fitted with fine grit carborundum wheel 4" diameter by 1" thick with 3/8" arbor hole. Weight packed in wood box, 10 lbs.

List Price\$7.00

CARBORUNDUM GRINDER

Niagara No. 2

Very similar to No. 1 Grinder, but larger and intended for harder service. Equipped with adjustable tool rest and medium grit carborundum wheel 5" diameter by 1" thick by 3/8" arbor hole. Weight packed in wood box, 11 1/2 lbs.

List Price\$10.00

CARBORUNDUM GRINDER

Niagara No. 3

A larger grinder or use in repair shops where considerable work is to be done. Fitted with medium grit carborundum wheel 6" in diameter by 1" thick by 3/8" arbor hole and equipped with adjustable tool grinding guide. Weight packed in wood box, 14 1/2 lbs.

List Price\$13.25

CARBORUNDUM GRINDER

Niagara No. 4

A powerful hand grinder suitable for use in any repair shop or factory. Equipped with adjustable tool grinding guide and 7 3/8" diameter by 1 1/4" thick by 1 1/2" arbor hole carborundum wheel. Weight packed in wood box, 26 lbs.

List Price\$18.00

TWIST DRILL ATTACHMENT

No. 23



For use on Nos. 3 or 4 Niagara Grinders. A simple device that enables quick and accurate drill grinding. Low in cost and really necessary in every well equipped shop. Fits Nos. 3 and 4 Niagara Grinders only.

List Price\$4.50

VISIBLE GASOLINE DISPENSERS

Accurately measure gasoline by volume—the only absolutely correct method of measuring any liquid. With only five working parts—all of them simple and easy to get at, any minor adjustments necessary can be made with the use of an ordinary wrench. The glass measuring container shows exactly by volume the amount of gasoline discharged and cannot measure incorrectly. Meets all Fire Insurance Regulations anywhere and gasoline in visible tank at top of column may be drained back into the underground storage tank if desired. Glass container is made of special tested high pressure glass. The fastest operating gasoline measuring device made. Will deliver gasoline into the car at the rate of five gallons every thirty seconds.

Method of Operation

The Outfit consists of two hand operated valves, one for air and one to direct discharge of gasoline to car; two check valves; a small auxilliary tank, and the required piping; 100,000 gallon meter and handsome metal column with glass measuring tank as shown in illustration. To operate open air valve one-fourth turn which raises the required amount of gasoline to the glass container. By closing the same valve the opening into glass container is automatically closed. The pressure on the small tank exhausted, the excess gasoline acts as a syphon which draws gasoline from storage tank into the auxilliary tank keeping auxilliary tank always full. In other words, gasoline is elevated into glass measuring container by air pressure, while the syphon action keeps the auxilliary tank full. Five lb. maximum pressure operates the outfit. No cranks, suction pumps, or pistons. No complicated electric motors with the attendant possibility of fire.

No. 2 Visible Gasoline Dispenser, Complete with 8 Gal. auxiliary high pressure tested gasoline tank. List Price, \$285.00

(F. O. B. Pittsburgh)

Outfit does not include Large Storage Tanks.

VISIBLE GASOLINE DISPENSER

No. 1

Operates on practically the same principle as Outfit No. 2, but does not include auxilliary gasoline tank, the gasoline being forced directly to the Dispenser by a 5 lb. air pressure. A practical low-priced outfit.

No. 1 Visible Gasoline Dispenser, Complete without Tanks.

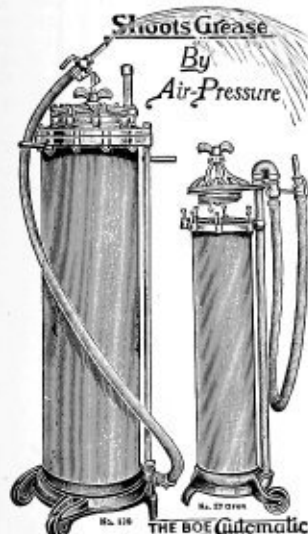
List Price.....\$195.00

(F. O. B. Pittsburgh)



BOE AUTOMATIC GREASE OR OIL GUNS

Self-Measuring



Equipped with accurate 5" gauge for measuring quantity of oil or grease discharged. Handles either grease or oil, operating by means of air pressure of 25 to 90 lbs., depending on viscosity of lubricant. Is quickly refilled as entire top cover may be removed in half a minute. Will completely discharge all lubricant but retains air pressure. Patent floating piston prevents backleakage of grease. Cannot leak through discharge hose. Air pressure cannot possibly escape as is fitted with heavy cork composition gaskets and a tight joint is secured by means of large wing nuts. Easily operated. No moving parts to wear out. With ordinary care one gasket will last a year—replaceable for 15¢. Mounted on steel wheels for easy moving.

NOTE:—In ordering state whether measuring dial is wanted for grease or oil.

No. 100 Steel Tank, 40" x 11" x 1½". Equipped with 5" wheels and 1" discharge hose. Capacity 110 lb. grease or 15 gallons oil. Complete with gauge. Finished in green and black enamel. Shipping weight 160 lbs.

List Price, Each.....\$60.00

No. 50 Steel Tank, 36" x 8". Capacity 5 lbs. grease or 7 gallons oil. Complete with gauge. 1" discharge hose. Finished in green and black enamel. Shipping weight 110 lbs.

List Price, Each.....\$45.00

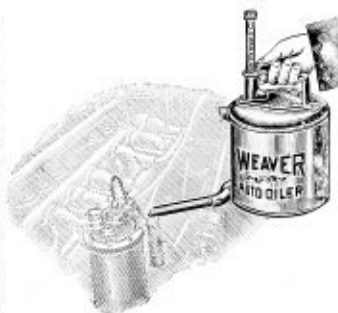
No. 32 Steel Tank, 31" x 6". Capacity 32 lbs. grease or 4½ gallons oil. 1" discharge hose. Complete with gauge. Finished in green and black enamel. Shipping weight 50 lbs.

List Price, Each.....\$30.00

WEAVER AUTO OILER

Self-measuring—convenient—clean—no chance for waste—describes the Weaver Auto Oiler. Consists of two-gallon, heavily galvanized, iron container and a long adjustable spout of heavy brass tubing. Spout may be turned downward in any position where a funnel could not be satisfactorily used. Spout cannot leak, as the valve is operated by pressing on button attached to handle. A simple "flow-type" gauge accurately measures the amount of oil in the can. Shipping weight, 10 lbs.

List Price\$8.00



BOE GREASE AND OIL GUNS

Self-Measuring



For those who prefer a crank operated geared pump Oil or Grease Gun, the Boe Repeater Grease Gun fills all requirements. Registers in lbs. or pints on accurate 5" meter dial. Guaranteed to pass all state inspections. Pump stroke capacity about 20 oz. Cover instantly removable for refilling. Mounted on substantial steel castors for easy moving.

NOTE:—In ordering state whether measuring dial is wanted for grease or oil.

No. 1 Steel Tank, 40" x 11" x

1½". Equipped with, 5" wheels and 1" discharge hose. Capacity 110 lbs. grease or 15 gallons oil. Complete with gauge. Finished in green and black enamel. Shipping weight 160 lbs.

List Price, Each.....\$60.00

No. 2 Steel Tank, 36" x 8" x 1½". Capacity 50 lbs. grease or 7 gallons oil. Complete with gauge. Finished in green and black enamel. Shipping weight 110 lbs.

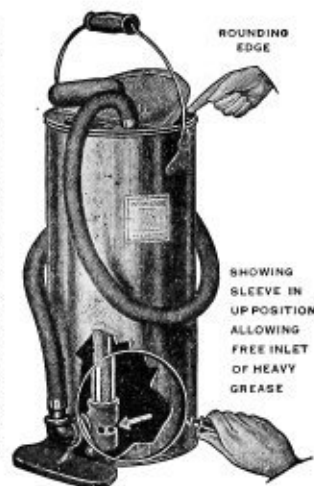
List Price, Each.....\$45.00

No. 3 Steel Tank, 31" x 6". Capacity 32 lbs. grease or 4½ gallons oil. 1" discharge hose. Complete with gauge. Finished in green and black enamel. Shipping weight 50 lbs.

List Price, Each.....\$30.00

RUNYEN GREASE AND OIL PUMP

A very convenient quick-acting grease or oil handling device with a capacity of 25 lbs. of grease or oil. Each stroke of pump handle delivers ¾ lb. of grease or ¼ pt. of oil in exactly the right place. Equipped with flexible hose for insertion in differential, transmission, etc., as desired. Easily refilled by opening hinged top. Handles the heaviest grease or oil equally well. Neatly finished and equipped with substantial handle as per illustration.



List Price\$8.00

WEAVER VALVELESS BUCKET PUMP

For Engine Oils and Light Greases



Entirely eliminates all waste and inconvenience and enables the lubricant to be handled with absolute accuracy.

One great advantage of the Weaver Bucket-Pump is the fact that its valveless construction permits lubricants to be handled in "three ways."

FIRST.—The lubricant can be forced out of the bucket and into the desired receptacle.

SECOND.—Grease or oils can be sucked out of the differential, transmission housing, etc.

THIRD.—The barrel or chamber of the bucket may be sucked full of foreign lubricant and discharged again through the hose

into a third receptacle without disturbing the contents of the bucket.

The cylinder has a total capacity of one pound of grease or heavy oils. In handling light lubricating oils which are usually sold by liquid measurement, ten strokes of the lever handle which operates the plunger rod will discharge one quart, making it self-measuring.

The Weaver Bucket Pump is equipped with $\frac{5}{8}$ " Flexible Steel Hose which cannot be affected by the grease, as is the case with rubber hose.

CONSTRUCTION.—The bucket proper is made of heavy sheet iron and has a capacity of 25 pounds of lubricant. The cylinder is of 16-gauge brass, 2" diameter, containing a plunger which will not leak and is impervious to the action of grease and oils. Shipping weight, 25 lbs.

List Price\$14.00

TIRE DISPLAY RACK

A neat stand for displaying tires to the best advantage in the store windows. Owing to their awkward shape tires are difficult to display well. This stand consists of two jaw brackets holding one tire. Finished in black or polished nickel plate.



Tire Display Stand, No. 205, Nickel Plated.

List Price\$5.00

Tire Display Stand, No. 206, Black Enameled.

List Price 2.50

TIRE DISPLAY STAND



A handsome solidly built steel rack which will accommodate from 20 to 40 tires, depending on size. As shown in illustration, it is six feet three inches long and will handle any size tire from 28 x 3 to 38 x 5 $\frac{1}{2}$. Mounted on steel castors, making it easy to move about the floor. Its compact design, allowing for two rows of tires, one above the other, makes it the best and most inexpensive way of handling tires in the garage or accessory store. Neatly finished in black enamel. The lowest priced tire rack on the market.

Tire Display Rack. List Price.....\$16.50

REVOLVING CABINET



Particularly valuable for bolts, nuts, screws, small parts, etc. Made of poplar, cherry stained and mounted on substantial pedestal. Each drawer is equipped with neat label holder. Occupies a minimum of space and each drawer is always available.

Made in the following sizes:

- | | | |
|--|-----------------|---------|
| No. 10 Case—72 Drawers. Height, 33"; width, 21". | List Price..... | \$57.00 |
| No. 12 Case—80 Drawers. Height, 36"; width, 21". | List Price..... | 60.00 |
| No. 14 Case—88 Drawers. Height, 38"; width, 24". | List Price..... | 65.00 |
| No. 16 Case—96 Drawers. Height, 42"; width, 24". | List Price..... | 70.00 |

NOTE.—These Cases can be furnished in oak at an additional cost of approximately 20%.

STOCK AND ACCESSORY BINS AND CABINETS

Made in two styles, with open bins or compartments and with separate drawers. Strongly built of oak and steel, each drawer or bin having steel back panels and bottom. The back and front of each drawer are made of wood; exposed parts finished in golden oak.

STOCK AND ACCESSORY BINS



Ideal for handling small parts, such as bolts, nuts, bearings, grease cups, etc. Each Bin contains 108 compartments, 5" wide by 5" high by 8" deep, with card holder for indexing contents. Outside dimensions—height, 65"; length, 7 ft.; depth, 10". Shipping weight, 275 lbs.

List Price\$44.00

F. O. B. Factory

STOCK CABINET

For handling screws, nuts, bolts, etc., and will save its cost many times as it provides a separate drawer for each size or part. Finished in golden oak with brass drawer pulls and card holder.

Drawers 8" x 3" x 2 1/2" inside measurements.

Made in two sizes with the following outside dimensions:



100 Drawer—Width, 43"; height, 39"; depth, 11". Shipping weight, 120 lbs. List Price...\$43.20

50 Drawer—Width, 23"; height, 39"; depth, 11". Shipping weight, 85 lbs. List Price... 28.60

F. O. B. Factory

MILLER BULB, FUSE AND BRUSH CABINET



A handsome display fixture that enables the dealer to show his stock of lamp bulbs, fuses and brushes in an attractive manner and also prevents the usual expense for bulb breakage in handling.

Description—Perforated sliding shelves, fitted with steel brass pulls and brass card holders; 10 for headlight bulbs; 3 for dash and tail lights, with three drawers for fuses and brushes, are encased in attractive cabinet of seasoned chestnut of fine quality.

Dimensions and Weight—Cabinet is 35" wide, 22" high, 9 1/2" deep. Shipping weight 55 lbs.

Capacity for Bulbs—Will hold 200 "G" 12 or "G" 16 1/2 bulbs, (sufficient headlight-bulbs of various voltage and candlepower for all cars in use); 216 dash and tail light bulbs provided for in separate compartment. Total capacity 416 bulbs.

Fuses—Twenty-four separate compartments in drawers for complete line of all fuses used in 106 different make of cars.

Brushes—Ample room for assortment of starting motor and lighting generator brushes in separate, catalogued compartments.

List Price.....\$15.00 F. O. B. Factory.

Heller Unit Cabinets and Bins

Made of Wood and Steel

COMBINATION No. 281



An ideal assembly for many small parts, such as Ford, ignition etc. Consists of

List Price

One Base Cabinet No. 254.....	\$46.00
One Unit Section No. 221.....	40.00
One Unit Section No. 210.....	52.00
One Unit Top No. 201.....	3.50

Total List Price.....\$141.50

The ideal method for displaying or carrying accessories, parts, tools etc., in the garage, store or shop. Each unit is separate and may be purchased in combination with any other desired units, thus enabling the addition from time to time as of such fixtures, cabinets, etc., as may be needed.

Each unit section is made with unexposed parts of body and drawers of galvanized steel. Wood work rich solid oak antique finish.

COMBINATION No. 291

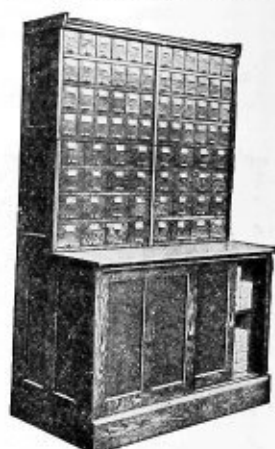


Very popular—will equip a smaller store completely.

Size: 12 ft. 6 3/4" long, 69" high, 12 1/2" deep.

Total List Price.....\$199.40

COMBINATION No. 280



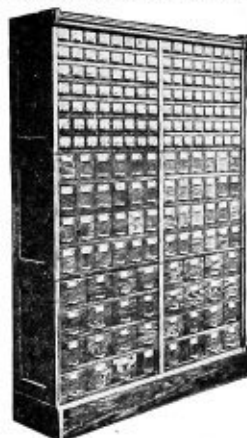
The Base Cabinet is especially suited for bulky parts. Consists of

List Price

One Base Unit No. 256.....	\$27.00
One Unit Section No. 332.....	30.00
One Unit Section No. 231.....	34.00
One Unit Top No. 201.....	3.50

Total List Price.....\$94.50

COMBINATION No. 283



Made up of three Unit Sections, all with same depth. Consists of

List Price

One Sub Base No. 200.....	\$ 2.50
One Unit Section No. 232.....	30.00
One Unit Section No. 231.....	34.00
One Unit Section No. 210.....	52.00
One Unit Top No. 201.....	3.50

Total List Price.....\$122.00

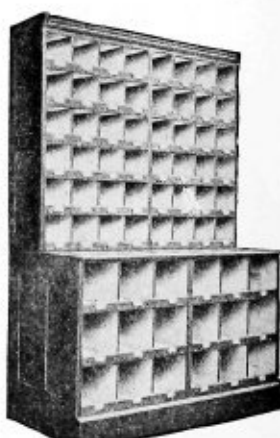
HANDY CABINETS



"Little Brother" of the big Sections—same durable construction. Size 8 3/4" x 19 1/2" x 13". Has 15 drawers. Fine for ignition and carburetor parts, etc., also in shop for tools.

Total List Price.....\$10.00

COMBINATION No. 285



These open bin sections afford the quick stock handling required in busy shops or garages. Consists of

List Price

One Base Cabinet No. 271.....	\$29.20
One Unit Section No. 209.....	22.40
One Unit Top No. 201.....	3.50

Total List Price.....\$55.10

Lack of space prevents us showing the complete line, but special Cabinets, Bin, etc., Catalogue will be furnished on request

MACHINISTS' STEEL TOOL KITS



Made of special steel of extra strength, enabling a lighter gauge material to be used. Actually weighs but little more than a leather grip (5 to 11 lbs.) Will withstand the hardest service and is fitted with brass corner braces and side catches and a Yale lock. Handle of steel, leather covered; cannot pull out. All seams electrically welded and reinforced. Cannot buckle. Fitted with convenient size drawers to handle drills and other small parts. Drawers 1 3/4" deep. Made in four sizes and finished in black baked-on enamel.

No.	Size	List Price
114	14" x 9" x 9"	\$5.25
116	16" x 9" x 11"	5.50
118	18" x 10" x 13"	5.75
120	20" x 11" x 13"	6.00

MECHANICS' TOOL KITS

No. "K"

Convenient for carrying tools about the garage or for outside repair jobs. Made of selected oak, securely shouldered, glued and nailed to frame, making the strongest type of construction. Fitted with drawers of varying sizes to handle all size tools. Trays made extra strong and neatly finished in oak. Fitted with heavy wire reinforced handle, which will not pull out, and Sargent lock. Entire kit is neatly enameled in black water-proof finish.



INSIDE DIMENSIONS

Long Wide Deep			Long Wide Deep		
2 Drs.	4"	7 3/8"	1 Dr.	12 1/2"	7 3/8"
1 Dr.	4"	7 3/8"	1 Dr.	18 1/4"	7 1/4"
2 Drs.	12 1/2"	7 3/8"	Tray	18"	7 3/8"

OUTSIDE DIMENSIONS

20 1/2" Long x 9 1/4" Wide x 13 1/4" High.
Weight, 23 lbs.

No. "K" Mechanics' Tool Kit. List Price.....\$17.00

MACHINISTS' TOOL KITS

All-Steel



Constructed of electrically welded, solid braced sheet steel that is guaranteed against buckling. Finished in black or brown baked-on enamel, with Corbin lock and leather covered steel handle. Trays lined with felt and fitted with brass pulls. Each tray runs on a separate track and slides easily. Will handle the heaviest tools without injury.

No.	INSIDE DIMENSIONS	List Price
515	Till under lid, 15 1/4" x 6 3/4" x 2 1/4". Large Deep Drawer, 14 1/8" x 6 1/2" x 2 1/4". Large Shallow Drawer, 14 1/8" x 6 1/2" x 1 1/4". Short Deep Drawer, 6 7/8" x 6 1/2" x 1 1/8". Short Shallow Drawer, 6 7/8" x 6 1/2" x 3/4". 15 1/2" long x 7" wide x 12 1/2" high.....	\$16.00
518	Till under lid, 17 1/8" x 7 1/4" x 2 1/8". Long Deep Drawer, 17 1/8" x 7 1/4" x 2 1/4". Long Shallow Drawer, 17 1/8" x 7 1/4" x 1 1/4". Short Deep Drawer, 8 1/4" x 7 1/4" x 1 1/8". Short Shallow Drawer, 7 1/8" x 7 1/4" x 3/4". 18" long x 8" wide x 12 1/2" high.....	\$17.00

UTILITY MECHANICS' KIT

Oak or Leather Covered



A practical, sturdy built chest made of selected oak with all joints lock-cornered, rabbetted and glued. Tray is fitted with movable partitions. Handle, leather, steel cored; cannot pull out. Strong lock and hardware, nickel finished.

INSIDE DIMENSIONS

				Tray		
Chest	Long	Wide	High	Long	Wide	High
L	15 1/4"	7"	6 3/8"	14 1/2"	4"	1 1/2"
L L	18 1/4"	7"	6 3/8"	14 1/2"	4"	1 1/2"

LIST PRICES

		Solid Oak	Leather Covered
Chest			
L		\$7.25	\$8.00
L L		7.50	8.40

WESTINGHOUSE RECTIGON BATTERY CHARGERS

"EARN WHILE YOU SLEEP"



THE ideal method of charging batteries either in the service station, garage, or for the car owner. Westinghouse Rectigon Battery Chargers require no attention when in use and are so simply constructed that the only part subject to wear is the bulb, which is renewable at a nominal cost. Absolutely safe. Cannot get out of order and, when battery is fully charged, the circuit is automatically broken, thus preventing an overcharge. No moving parts. Small in size, economical in use.

By installing a Westinghouse Rectigon Battery Charger the garage can add a handsome profit return, with practically no additional expense for upkeep or operation, and at the same time give battery service to their customers. Frequently a storage battery tests "low" and this invaluable device enables it to be "boosted" to the required charge without even removing the battery from car.

As previously stated, there are no moving parts, therefore no oil or grease, and charger cannot be affected by heat or cold. No danger of fire "shorting" or the other usual storage battery-charging-outfit difficulties. Simply attach cable by means of convenient clips to the regular electric circuit and the storage battery, as explained in instructions, and forget all about it until the battery is fully charged.

Its construction is simplicity itself. A strong cast base, with pressed steel cover and convenient hand holds, makes it easily moved about the garage. The bulb is mounted in a socket just in front of the transformer inside the cover, while lead cables come out through the base and are thoroughly protected from injury by encasing metal. Electric circuit cables are provided with separable attachment plugs and charging leads with convenient clips to attach to battery.

Positively the lowest priced Charger on the market in initial cost and the lowest in operating cost, averaging only about one cent per hour while in use. In other words, for ten or fifteen cents a battery may be recharged with no other labor cost than merely attaching or detaching clips.

— PRICES —

Style No.	A. C. Volts	Cycle	No. of Cells	D. C. Volts	D. C. Amps.	Weight Approx. Net Ship. Lb.	List Price
*282395	110	60	3 to 6	6 to 15	6 to 3	21	28.00
*285168	110	60	3 to 6	6 to 15	2½ to 1½	9¼	\$18.00

* The outfits are so designed as to give rated normal currents at normal line voltage to 3 cells and about two-thirds this current at normal line voltage to 6 cells.

Renewal Bulb Style No.	Used with Rectigon	Ampere Capacity	Net Wt. Bulb	List Price Bulb
277681	282395	2½ to 1½	2 oz.	\$3.50
289414	285168	6 to 3	5 oz.	6.00

NOTE.—At the present time (June 1, 1920) we can only furnish the sizes listed on this page, but within 60 to 90 days we will be able to furnish the larger heavy-duty, Ten-Battery Charging Outfits, on which prices will be announced shortly.

ST LOUIS ALTERNATING CURRENT
BATTERY CHARGER

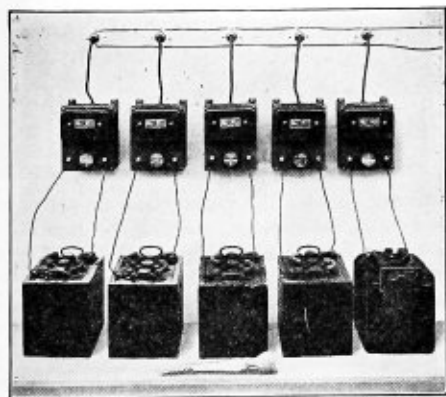
The M U Type is designed to charge one 6-volt battery at a 6 ampere rate from a regular alternating current lighting circuit. It may also be furnished to charge a 12-volt battery at a 3 ampere rate. All parts are completely closed and built to Underwriters' specifications. An improved type meter is provided and the part re-

arranged so that the device is more convenient to handle. The Charger may be hung on a wall or carried to any car and connected to a convenient lamp extension, and the battery charged without disconnecting. Where more than one battery is to be charged the required number of Chargers may be mounted in a row along the wall. With this arrangement one battery may be charged as efficiently as many, as the Chargers which are not in use may be readily switched off the circuit. This size will charge higher voltage batteries if they can be charged in 6-volt sections. Two 6-volt batteries may be charged in parallel at a 3 ampere rate.

SMALL EXPENSE TO OPERATE.—The efficiency of the Battery Charger is unusually high, with a low current consumption. The cost of charging a battery varies between three and ten cents, depending upon the size of the battery and the prevailing price of current in cities where it is operated. The vibrator contacts are the only parts that wear out, and a set ordinarily lasts about 2,000 hours. As they are inexpensive, the maintenance cost per battery is exceedingly low.

GUARANTEE.—The St. Louis Battery Charger is guaranteed free from all mechanical and electrical defects for a period of one year.

The illustration shows a bank of five units suitable for the garage.

PRICES AND WEIGHTS ALTERNATING CURRENT
BATTERY CHARGERS

Size $6\frac{1}{4}$ " x $6\frac{1}{2}$ " x $8\frac{1}{2}$ ". Net weight, 18 lbs.

Shipping weight, 20 lbs.

For 110-Volt—60-Cycle Current.

List Price

Type M U Battery Charger, 6-Volt, 6 Ampere, \$22.00

Type M U Battery Charger, 12-Volt, 3 Ampere, 22.00

For 220-Volt—60-Cycle Current

Type M U Battery Charger, 6-Volt, 6 Ampere, \$24.20

Type M U Battery Charger, 12-Volt, 3 Ampere, 24.20

For 50, 40, 30 or 25 Cycle Current add \$3.00 to above prices.

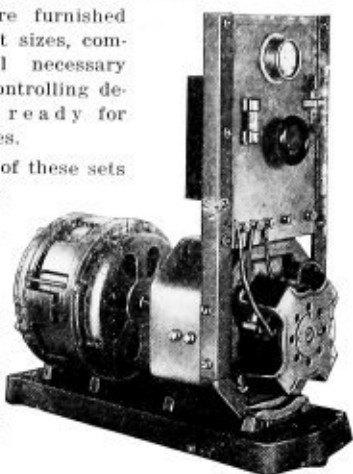
MOTOR GENERATOR SETS

ST. LOUIS TYPE G

These Sets are furnished in three different sizes, complete with all necessary switching and controlling devices and are ready for charging batteries.

The efficiency of these sets is 66%, which is very high, assuring low cost of charging.

Ball bearings are used on both Motor and Generator which gives assurance of low maintenance cost and an outfit that will last for years of continuous operating.



CAPACITIES ARE AS FOLLOWS:

Type	Volts	Amp.	6-Volt Batteries	
			Series	Multiple
9G	38	25	5	20
30G	60	40	8	64
3G	30	10	4	8

For producing the direct current for charging storage batteries the Shunt Generator has proven the most reliable and the simplest to handle. By designing this generator solely for Battery Charging Service, we have obtained an outfit with unusually high efficiency and reliability. This insures a low cost to charge a battery and a low maintenance expense, making the St. Louis Type G Motor Generator Sets one of the most dependable and highly efficient outfits on the market.

Both the Generator and the Motor have concentric lugs of the frames which fit into corresponding supports on the base Generator, allowing either unit to be removed and replaced at any time. Both units are connected together with a simple flexible coupling that causes no strain on the bearings. The insulation is ample for the voltage and treated so as to be water-proof. The performance of the Generator is so designed that its regulation is such as to give a tapered charge to batteries and it will also operate with sparkless commutation at a 50% over-rated current, either at full voltage or with only one battery on charge.

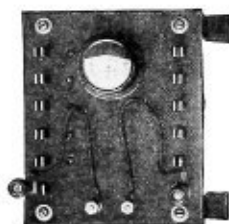
Type	Volts	Ph.	Cy.	D.C.		Sh'g Wt.	List Price
				Watts	H.P.		
3G	110	1	60	300	$\frac{1}{2}$	180	\$136.40
3G	220	1	60	300	$\frac{1}{2}$	180	136.40
3G	220	3	60	300	$\frac{1}{2}$	180	136.40
9G	110	1	60	950	$1\frac{1}{2}$	308	246.40
9G	220	1	60	950	$1\frac{1}{2}$	308	246.40
9G	220	3	60	950	2	308	246.40
30G	.....	3	60	2400	5	525	429.00

For 25 or 30 cycle add 15%.

Before ordering have your electric company advise the voltage, cycles and phase of your electric service.

ST. LOUIS AUXILIARY RHEOSTAT

TYPE 9G



May be used to regulate and measure the charging current in different groups of batteries where they are charged from a Motor Generator or Farm Light-plant.

Also used to charge batteries from 110-volt direct current lines connecting two or three in series with the batteries to be charged.

The more batteries to be charged the less Rheostats are required.

It may also be used for discharging batteries when treating them for sulphate, etc.

The resistance is mounted on asbestos with contacts so arranged that resistance can be varied to any degree. A simple but well constructed Rheostat.

Type 9G Rheostat, 10 ampere cap. List Price, \$7.70
Type 9G Rheostat, 3 ampere cap. List Price, 7.70

Size 8" x 8 1/2" x 5 1/2".

Net weight, 5 lbs. Shipping weight, 7 lbs.

HOYT CADMIUM TEST VOLTMETER



Built on the moving coil principle and particularly adapted for storage battery work in conjunction with Cadmium prods in determining condition of positive and negative plates. Equipped with divided scale, reading from .30 to .7 volts. Case is stamped metal with neatly finished mahogany case. Size, 5" x 4 1/4".

No. 515-D Hoyt Cadmium Test Voltmeter.

List Price\$12.00

HOYT CADMIUM PRODS

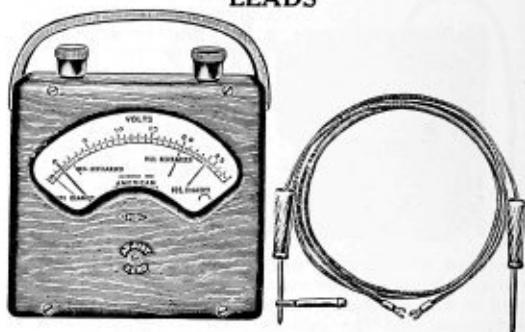


A normal, fully charged storage battery cell should test 2.5 volts, decreasing at various rates of discharge, but should never be used when the reading drops below 1.8 volts. The Cadmium Test instantly shows whether each cell is functioning properly and

enables the battery to be thoroughly tested without opening the battery. The following readings indicate that the cell is in good condition:

Condition of Cell	Voltage of Positive Plates	Voltage of Negative Plates	Net Voltage of Cell
Charged	+ 2.4	- 0.1	+ 2.5
Discharged	+ 2.05	+ 0.25	+ 1.8
Hoyt Cadmium Prods. List Price.....			\$3.50

AMBU VOLTMETER AND CADMIUM LEADS



A hydrometer test only cannot definitely determine condition of storage battery plates, but it is necessary to use Cadmium Leads for accuracy. Cadmium Leads are two flexible conductors fastened to brass prods with handle, one prod having a rod of pure Cadmium. The Cadmium Voltmeter is made especially for use with Cadmium Leads. Scale reads .2 to 2.7 volts. Normal reading is shown on scale. Full instructions are included with this outfit.

Cadmium Leads. List Price.....\$ 4.25

Cadmium Voltmeter. List Price..... 22.50

Cadmium Leads and Voltmeter. List Price..... 26.50

ALLEN-BRADLEY STORAGE BATTERY DISCHARGE TESTMETER OUTFIT

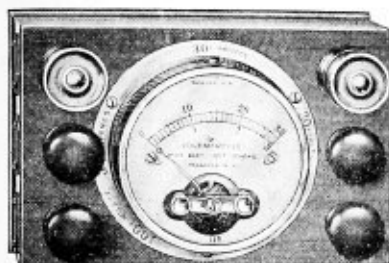


Instantly enables the repair man to detect weak or dead cells in ignition, starting, or lighting batteries by the high rate discharge method. Any number of cells from 1 to 12 inclusive may be tested in series. Accurately tests all cells at a definite rate of discharge. Provided with "adjustable load" variable to suit the battery either for momentary high rate tests or for prolonged tests at 5 to 8 times the normal discharge rate of battery. To use, connect set across battery terminals and adjust to proper rate of discharge by turning hand wheel; then test each cell with ordinary voltmeter. The "low cells" require attention. Ammeter included with this outfit may be used independently for determining the current used by starter. Outfit operates on Allen-Bradley graphite compression resistance unit system which is standard equipment with largest battery manufacturers.

Storage Battery Discharge Test Outfit.

List Price\$45.00

HOYT ROTARY METER



An invaluable device for locating grounds, short circuits, open circuits, poor connections, field and armature trouble, or battery difficulties. A Rotary Type Meter in which the entire meter rotates to allow readings in five different ranges. Size of instrument $4\frac{1}{2}'' \times 3'' \times 2''$. Fits in the pocket and will locate all electrical troubles ever found on a car.

Hoyt Rotary Meter. List Price, Each.....\$18.00
External Shunt (300 amperes). List Price, Each 5.00

HOYT "HIGH RATE" CELL TESTER



Enables each cell to be tested individually for amperage, etc., entirely independent of other cells. Far better than hydrometer tester, as its reading if measured by Hoyt Rotary Meter never fail to be correct. Small in size ($6'' \times 7''$), light in weight. Will withstand all kinds of abuse.

Hoyt Cell Tester. List Price, Each.....\$5.00

BULLDOG BATTERY CLIPS

For Charging Storage Batteries



Anti-corrosive and extra heavy lead coated with no springs to weaken. May be adjusted to grip any size from the smallest wire to $1\frac{3}{4}''$ diameter. No springs nor screws. Cannot be weakened through heat. Saw tooth jaws which rigidly grip contact. Length, $3\frac{3}{4}''$. Width, $\frac{5}{8}''$.

Packed in unit packages of 20 and 100.

Bulldog Battery Clips. List Price, Each.....\$.20

UNIVERSAL BATTERY CLIPS



Made of steel, heavily lead coated to resist acid. Jaws have spread of $1\frac{1}{2}''$.

Universal Battery Clips. List Price, Each.....\$.20

Packed in unit packages of 10 and 100.

FORD STANDARD ELECTRICAL EQUIPMENT



Gives all necessary information in caring for and repairing new F. A. Ford Standard Electrical Equipment. Needed by every Ford repair shop. 150 pages with 47 illustrations.

List Price\$2.50

WIRING DIAGRAMS

In Three Volumes



Volume 1, 1912-13-14;
Volume 2, 1917-18-19.
Bound in looseleaf form and printed on extra heavy paper with large $6 \times 9''$ drawings.

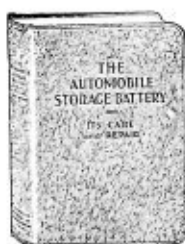
Extra diagrams are furnished at slight additional cost.

In ordering specify volume desired.

LIST PRICES

Per Volume.....\$ 3.50
Per Set of 3 Vols. 10.00
Single Diagrams.... .25

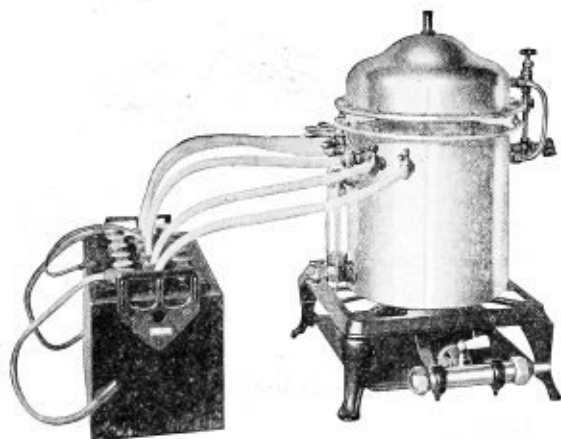
STORAGE BATTERY MANUAL



A 300-page book which clearly explains theory manufacture and maintenance of auto storage batteries. Gives complete instructions on battery repairs, tools needed, shop equipment, charging methods. Fully illustrated.

List Price\$5.00

IBSCO BATTERY STEAMER AND STILL

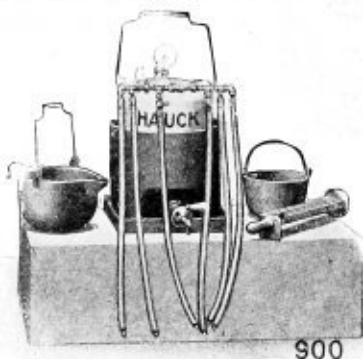


Made of aluminum and brass—materials which are not affected by acid or acid fumes and which will not corrode or rust. As shown in illustration, comes complete with all necessary valves, steaming hose, etc., and can be supplied for automatic water connections at slight additional cost. When not in use as a battery steamer there is no waste of fuel as it automatically distills water at the rate of one gallon per hour.

Boiler is made of 14 gauge seamless spun aluminum and equipped with six brass steam cocks which enable one 6-cell or two 3-cell batteries to be opened every five minutes. Complete with all necessary fittings ready for use but without stove.

No. 2 Steamer without Still. List Price.....	\$52.50
No. 1 Steamer with Still. List Price.....	65.00
No. 4 Steamer without Still. List Price.....	37.50
No. 3 Steamer with Still. List Price.....	50.00
No. 3 Steamer and Still, complete. List Price.....	50.00

HAUCK STORAGE BATTERY STEAMER



900

Costs 8 cents per hour to operate with kerosene. An economical, efficient Battery Steamer that enables dismantling a storage battery in five minutes. Capacity of oil tank, 1½ gal. Capacity of steam generator, 2½ gal. Tinned inside and outside to prevent rusting. Furnished with 30 lb. steam gauge and safety valve, releasing at 10 lbs. Manifold is equipped with six 20" lengths of rubber steam hose with acid-proof tips. Each hose line equipped with cock.

Water gauge, compound kettle, lead pot, furnished at extra cost.

Hauck Kerosene Battery Steamer Complete, without Water Gauge. List Price.....\$40.00

STORAGE BATTERY STEAMER

"Burns Gas"

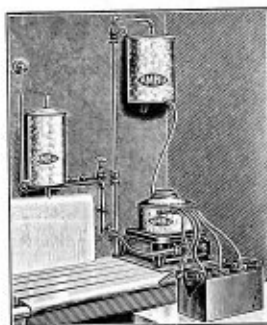
Desirable where natural or artificial gas is available. Identical in design with kerosene type Hauck Battery Steamer, excepting that no fuel tank is included and a different style burner is furnished.

Hauck Gas Battery Steamer Complete, without Water Gauge. List Price.....35.00

FURNISHED AT EXTRA COST

	List Price
Water Inlet	\$.75
Water Gauge	3.50
35 Lb. Capacity Melting Pot.....	1.50
1½ Gal. Compound Melting Kettle.....	2.00
Lead Mold for making lead sticks, 15" x 1½".....	1.50

AMBU BATTERY STEAMERS



Made in two styles: Type A, in which steaming is done in enclosed box; Type B, in which steam is carried direct to battery cells.

Type A Outfit consists of steam boiler, water tank, and steaming box. An automatic inlet valve keeps level of water at 1".

Type B Outfit includes steam boiler, water tank, and is equipped with hose with adjustable valve, permitting the opening of required number of outlets for battery cells. If desired these steamers may be used as condensers for distilling water with a capacity of ½ to ¾ gal. distilled water per hour.

TYPE "A"

With Battery Steamer, Steam Boiler, Water Tank and Steaming Box. List Price.....	\$52.00
With Steam Boiler, Water Tank, Steam Box and Condenser. List Price.....	62.00
Steam Box only. List Price.....	28.00
Condenser only. List Price.....	12.50

TYPE "B"

With Steam Boiler, Water Tank, Hose, etc. List Price	\$25.00
With Steam Boiler, Water Tank, Hose, etc. and Condenser for distilled water. List Price.....	35.00
Condenser only. List Price.....	12.50

WHOLESALE DISTRIBUTORS

AMBU BATTERY PLATE PRESS

AMBU PLATE BURNING RACKS

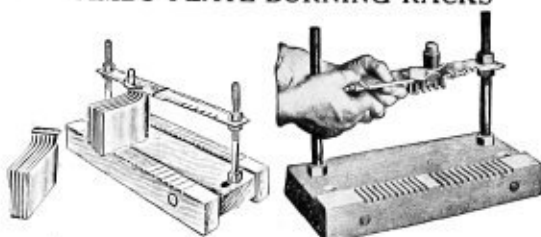
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A fully discharged negative plate is warped out of shape and must be pressed back flush with grids before the plates can be used again. This Press will quickly and easily straighten plates without injury or possibility of acid damage. Press is made entirely of hardwood, excepting top cross-piece and screw parts, which do not come in contact with plates; therefore iron cannot injure plates. Acid from press plates runs into lead-coated troughs and does not fall on floor or clothes. Length of jaw, 19". Allows pressing of three groups of plates at one time. Complete set of transite board for placing between plates is included with press.

does not fall on floor or clothes. Length of jaw, 19". Allows pressing of three groups of plates at one time. Complete set of transite board for placing between plates is included with press.

Battery Plate Press with 21 $\frac{1}{2}$ " and 12 $\frac{1}{4}$ " Transite Boards. List Price.....\$47.50
Transite Boards only, without Press. List Price, 12.50

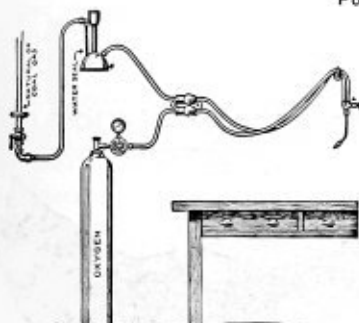


A simple, practical device, enabling plates to be held at exactly the correct distance apart while burning in new plates, attaching to plate strap, or molding in lead. Racks for guiding slots cut in base as well as in the iron bar or comb, special metal fittings are furnished which hold plates firmly in position and prevent hot lead from running off. Save 50% of the mechanic's time. Small rack will handle all $\frac{1}{8}$ " Willard-Gould, Philadelphia and U. S. L. plates and all thin plates such as Exide, XXX-L Willard-Gould. Large rack will handle 95% of storage battery plates made.

Style A Plate Burning Rack, Small Size.
List Price\$10.00
Style B Plate Burning Rack, Large Size.
List Price 16.00

IMPERIAL LEAD BURNING OUTFITS

For Storage Battery Stations.



No. 20 Outfit. For use with Acetylene and Oxygen.

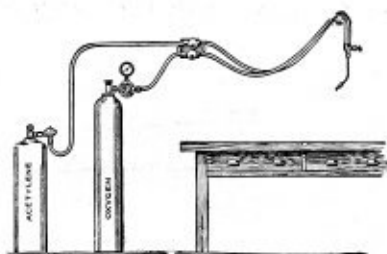
Made in a variety of styles for use with oxy-acetylene; oxy-hydrogen; air and hydrogen; natural gas and oxygen, or in connection with regular Imperial Welding Outfits.

No. 20 Oxy-Acetylene Outfits includes 1 Type F Oxygen Regulating Valve with 15 lb. Pressure Gauge, 1 Type 10R Acetylene Constant Pressure Regulator, 35 feet $\frac{3}{8}$ in. Special Rubber Hose, 1 Bench Block with 2 Needle Valves, 1 Type L Imperial Lead Burning Torch with 4 Tips, 1 Wrench. Outfit packed in individual carton. This outfit can also be used for light welding on all metals.

No. 20 Lead Burning Outfit (Tanks not included.) List Price.....\$27.50

No. 21 Oxy-Hydrogen Outfit includes 1 Type F Oxygen Regulating Valve with 15 lb. Pressure Gauge, 1 Type FH Hydrogen Regulator with 15 lb. Pressure Gauge, 35 feet $\frac{3}{8}$ in. Special Rubber Hose, 1 Bench Block with 2 Needle Valves, 1 Type L Lead Burning Torch with 4 Tips, 1 Wrench. Outfit packed in individual carton. This outfit can also be used for light welding on all metals.

No. 21 Lead Burning Outfit (Tanks not included.) List Price.....\$32.50



No. 24 Outfit. For use with Illuminating Gas and Oxygen.

No. 22 Hydrogen—Compressed Air Outfit includes 1 Type FH Hydrogen Regulating Valve with 15 lb. Pressure Gauge, 1 Type 10R Constant Air Pressure Regulator, 35 feet $\frac{3}{8}$ in. Special Rubber Hose, 1 Bench Block with 2 Needle Valves, 1 Type L Imperial Lead Burning Torch with 4 Tips, 1 Wrench. Outfit packed in individual carton.

No. 22 Lead Burning Outfit (Tank not included.) List Price.....\$30.00

No. 24 Natural or Artificial Gas and Oxygen Outfit includes 1 Type F Oxygen Regulating Valve with 15 lb. Pressure Gauge, 1 Imperial Hydraulic Back Pressure Valve and Purifier for Coal Gas or Natural Gas, 35 feet $\frac{3}{8}$ in. Special Rubber Hose, 1 Bench Block with 2 Needle Valves, 1 Type L Imperial Lead Burning Torch with 4 Tips, 1 Wrench. Outfit packed in individual carton.

No. 24 Lead Burning Outfit (Tank not included.) List Price.....\$35.00

No. 26 Outfit for use with Regular Imperial Oxy-Acetylene Welding Outfit includes 1 Type L Imperial Lead Burning Torch with 4 Tips, 1 Bench Block with 2 Needle Valves, 16 feet Special $\frac{3}{8}$ in. Rubber Hose, 1 Wrench. Outfit packed in individual carton.

No. 26 Lead Burning Outfit (Tank not included.) List Price\$10.00

DYER LEAD-BURNING OUTFIT

Oxy-Hydrogen.

Particularly good for storage battery work as long, pointed extra hot flame is produced.

Outfit includes one No. R3 Oxygen regulator, 1 No. R5 Hydrogen Regulator, two 8 Ft. special gas hose lengths, 1 torch with three tips. If desired this outfit may be used with oxy-acetylene, natural or artificial gas,

or with compressed air and hydrogen. Length of torch 8". Weight of outfit complete, 11 lbs.

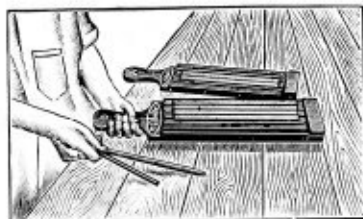
No. OHA Dyer Lead-Burning Outfit.

List Price\$35.00

Torch Only with 3 Tips. List Price..... 5.00

Outfit does not include tanks.

AMBU LEAD BURNING MOLDS



Saves the accumulation of lead scrap from old plates, post drilling, etc., which may be used in lead burning. Mold is made of heavy sheet iron, solid mounted on a wooden base with asbestos heat insulation.

Lead Burning Molds. List Price, Each.....\$2.00

AMBU BATTERY TURNTABLE



Invaluable for easy inspection and repair of storage batteries. Consists of two heavy pieces of hardwood, securely connected and mounted on ball-bearings for easy turning. Will easily carry a weight of 150 lbs.

Battery Turntable. List Price.....\$3.25

AMBU BATTERY CARRIER



The AMBU WAY is the BETTER WAY

A simple device for easily carrying a storage battery in a horizontal position. Carrier is made of hard wood, with hook on each end fitting all storage battery handles.

Storage Battery Carrier. List Price, Each.....\$2.00

WEB PLIERS

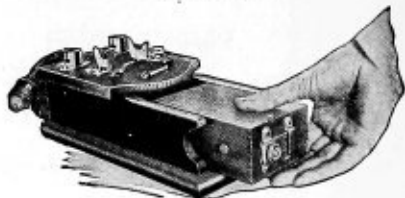
Kraeuter No. 4250



Particularly useful in handling cells in storage batteries; lifting cells from case, etc. Teeth are sharp enough to grip but will not injure battery jars.

No.	Length	Finish	Width of Jaw	List Price Each
4250	8 3/4"	Polished	3"	\$2.55

JEFFERSON COMBINATION COIL TESTERS



The modern method of testing Automobile Lamps, Spark Plugs, Electric Horns, Ford Coil Units, various other types of Coils, Battery Jars, for locating short circuits, grounds, etc., and for starting Ford engines in cold weather.

The important feature of the No. 28 Tester is that it tests the Ford Coil Unit with alternating current. The Ford Coil Unit is wound for, and operates in actual service with alternating current; therefore, to obtain a positive test and adjustment, use alternating current.

No. 28 Tester is designed to be connected to the Alternating Current Lighting Circuit, thereby eliminating the use of a Storage Battery or Dry Cells. List Price.....\$8.00

No. 30 Combination Tester is identical in every respect to the No. 28, with the exception that it is designed for use where Alternating Current is not available and receives its energy from a 6-volt storage battery or four dry cells. List Price 6.00

Standard Stock Windings of our No. 28 Tester will operate on 110 to 120 volts Alternating Current, 60 to 133 cycles; 110 volts, 25 cycle, and 220 volts, 60 or 25 cycles, carried in stock and furnished at a slight additional cost.

HOYT MAGNETO TESTER FOR FORD CARS



A simple device which enables a correct test of Ford Model T Magnetos. Comes complete with necessary attaching cables. Tester is marked "poor," "good," "medium," and "extra," and indicate magneto conditions. Size 5" x 4 1/4".

Hoyt Magneto Tester. List Price.....\$12.00

ST. LOUIS MAGNETIZERS



Without Attachment



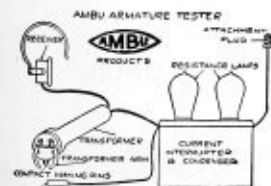
With Ford Attachment

A small inexpensive device for re-magnetizing the magnets of magnetos. Consists of a powerful electro-magnet, mounted on neat wooden base, with knife switch and two binding posts, as shown in illustrations. May be operated by either 6 or 12-volt storage battery or dry cells. For Ford work the magnetizer is furnished with special removable pole pieces (see illustration) enabling Ford magneto magnets to be re-magnetized without removing from car. This device is particularly recommended for repair shops catering to ignition and electrical work.

St. Louis Magnetizer, without Ford Attachment.
List Price\$8.25

St. Louis Magnetizer, with Ford Attachment.
List Price 9.35

AMBU ARMATURE TESTER



Accurately and quickly locates open circuits, short circuits, grounds, or reversed commutator connections in armature, or D. C. motors and generators. Size voltage or resistance of armature does not affect reading. 6 Volt or 600 volt armatures may be tested with equal accuracy. No connections of any kind required. Less than 1 amp. test current needed. May be used on A. C. or D. C. current; any voltage from 6 to 220.

Armature Tester, Complete. List Price.....\$30.00

TURNER ENGINE CLEANER



A very practical device for cleaning dirt, oil, or grease from the motor. Pressure is obtained by automatic pump in handle and a fine spray shot against part to be cleaned. May be also used for cleaning cushions. Requires very little pressure. Capacity 1 qt.

Turner Engine Cleaner. List Price.....\$9.75

ROMORT ENGINE CLEANER



Invaluable for removing grease, oil, or dirt from motor or other parts of automobile. Equipped with long spout enabling operator to reach inaccessible parts. Air does not enter fuel tank but passes through air tube, picking up fluid at extreme end of cleaner, thus eliminating any possibility of explosion. Nozzle may be adjusted to throw fine or heavy stream of fluid (kerosene is recommended.) Capacity 2 qts. Air may be supplied from regular air line or engine driven pump.

Romort Engine Cleaner. List Price Each.....\$3.50

FORGES



We carry a large variety of Forges both with hand operated blower and electric motor driven blower.

For ordinary machine shop work, we recommend the hand operated blower as being lower in cost and at the same time just as efficient for heat treating, welding and other jobs which do not require the constant use of a forge.

No. 240-H Forge as shown in illustration is equipped with steel half hood and 12" hand driven style of blower. Size of hearth 23" x 30".

List Price, as illustrated without tank.....\$40.00

List Price with tank..... 44.00

For full enclosed hood add \$11.00 to List Prices.

Shipping weight 225 to 250 lbs.

Note. This Forge has been brought out as best fitting the needs of the average garage and cannot be recommended too highly.

IMPERIAL WELDING AND CARBON BURNING OUTFIT

No. 1.



Will handle all kinds of light or heavy welding jobs. Outfit consists of:

One Type B Imperial Welding Torch with 10 interchangeable tips for welding varying thickness jobs and extra section for heavy welding; 1 Type A Imperial Oxygen Regulator with 3,000 lb. cylinder

pressure gauge and low pressure working gauge; 1 Type AA Imperial Acetylene regulator with 500 lb. cylinder pressure gauge and working pressure gauge; Cylinder Connections; Outlet Valves; and Union Hose Connections. 12½ ft. Special Acetylene Hose; 1 Pr. Welding Goggles; 1 Type "G" Carbon Burning Torch; 1 Wrench, Instruction Book, and a generous supply of cast iron rods, Norway iron rods, bronze, and aluminum rods and fluxes for iron, brass or aluminum.

Outfit is packed in substantial case weighing approximately 65 lbs. Case is equipped with neat handle and is easily carried to the job.

No. 1 Outfit. List Price.....\$90.00

Outfit does not include tanks.

IMPERIAL WELDING, CUTTING AND CARBON BURNING OUTFIT

No. 4.

Particularly adapted for garages, repair shops, etc. This outfit is larger and will handle heavier jobs than the No. 1 Outfit. With this outfit is included a cutting torch. Outfit includes:

One Type B Welding Torch with 10 welding tips; extension; cutting attachment; 1 Housing 3 cutting tips and roller guide; 1 Type A Imperial oxygen regulator with 3,000 lb. high pressure gauge and low pressure gauge; 1 Type AA Imperial acetylene regulator with high pressure tank and low pressure working gauge; Cylinder connections; Outlet Valves, and Brass Union Connections; 12½ ft. Special Oxygen Hose; 12½ ft. Special Acetylene Hose; 1 Wrench; one pr. Goggles; 1 Type "G" Carbon Burning Torch; 1 Instruction Book, and a generous supply of cast iron, Norway iron, bronze, and aluminum welding rods and fluxes for those materials.

Outfit is packed in a neat, substantial carrying case. Approximate weight 65 lbs.

Outfit does not include tanks.

List Price\$110.00

IMPERIAL WELDING TORCH

Type B.



Regularly furnished with Imperial Outfits Nos. 1, 4 and 5.

Type B Welding Torch. List Price.....\$30.00

IMPERIAL WELDING AND CUTTING OUTFIT

No. 5. Oxy.-Acetylene.

This outfit is intended for continuous hard service and will handle all welding work that will come into the auto repair shop. Will also cut steel of any thickness up to 12". Outfit includes:

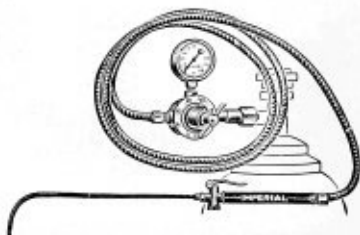
One Type B Imperial Welding Torch with 10 interchangeable tips for varying thicknesses of materials and extra section for heavy welding; 1 Type E Imperial cutting Torch with 2 housings, 4 tips, and roller guide for cutting wrought iron and steel of any thickness; 1 Type A Imperial Oxygen Regulator with 3,000 lb. cylinder pressure gauge and low pressure working gauge; 1 Type AA Imperial Acetylene Regulator with 500 lb. tank pressure gauge and low pressure working gauge; Cylinder Connections; Outlet Valves, and Union Hose Connections; 25 ft. Special Oxygen Hose; 25 ft. Special Acetylene Hose; 2 pr. Goggles; 1 Wrench; 1 Type "G" Carbon Burning Outfit; 1 Instruction Book and a generous supply of cast iron, Norway iron, bronze, and aluminum welding rods and fluxes.

Packed in a neat substantial carrying case. Approximate weight 65 lbs.

Outfit does not include tanks.

List Price\$140.00

IMPERIAL CARBON BURNING OUTFIT



Easily and quickly removes all carbon at a cost of 10c to 15c per cylinder. Outfit consists of Type G Carbon Outfit; Type D Regulator Gauge, Hose Connections, etc.

List Price\$15.00

Outfit does not include tanks.

IMPERIAL CUTTING ATTACHMENT

For Type B Imperial Welding Torch.



Regularly furnished with Imperial Outfits No. 4, and enables Welding or Cutting with one torch. Imperial Cutting Attachment Only,

List Price\$20.00

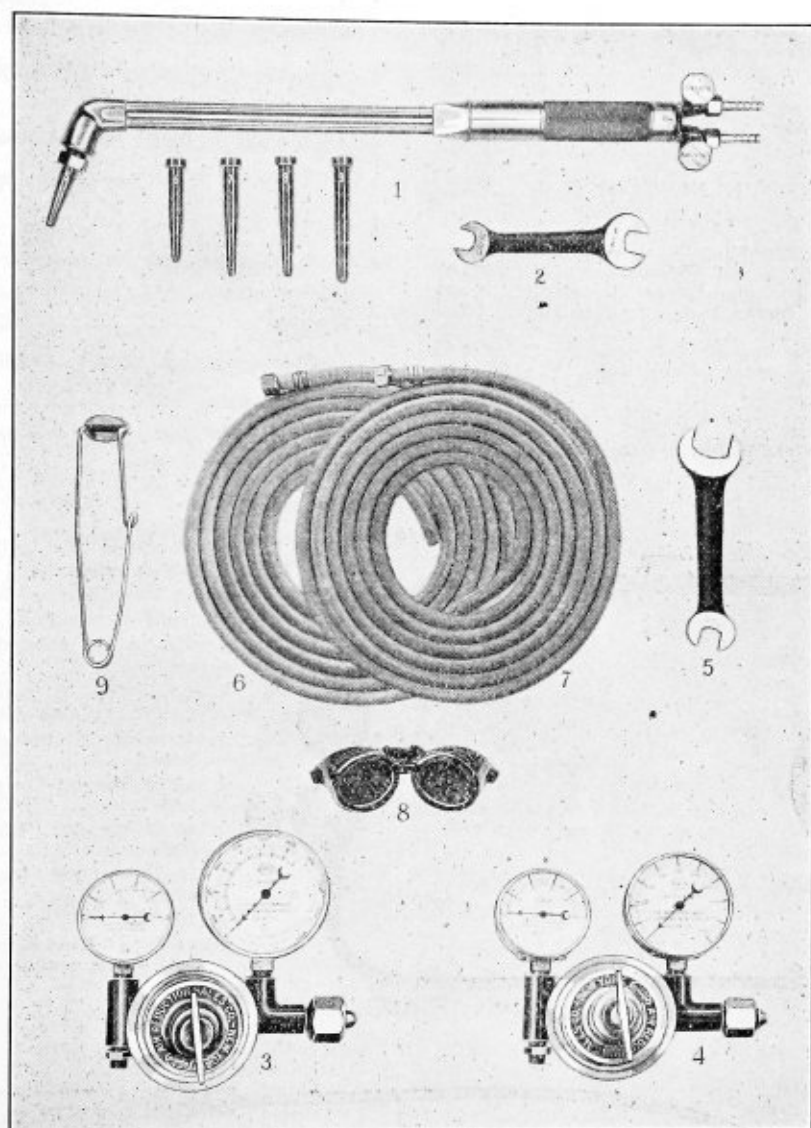
IMPERIAL CUTTING TORCH

Type E.



Regularly furnished with Imperial Outfit No. 5. List Price\$50.00

AIRCO WELDING TORCHES



The latest most improved types on the market for welding or cutting all metals. Each Outfit is packed in neat substantial carrying case and can be easily carried to the job.

SEE NEXT PAGE FOR PRICES AND DESCRIPTION

AIRCO WELDING OUTFITS

AIRCO WELDING OUTFIT

Type A

1 Type A Welding Torch with 5 Interchangeable Tips and Wrench.....	\$50.00
1 Oxygen Regulator.....	24.80
1 Standard Airco 500 lb. Gauge Acetylene Regulator.....	20.00
1 Wrench.....	.75
2 25 Ft. Hose Lengths.....	4.20
2 High Pressure Hose Connections.....	1.44
1 Pair Goggles.....	2.60
1 Lighter.....	.20
1 Carrying Case.....	6.75
Airco Type A Welding Outfit, Complete.	
List Price.....	\$110.74

AIRCO WELDING OUTFIT

Type B

1 Type A Airco Welding Torch with 5 Interchangeable Tips and Wrench.....	\$30.00
1 Airco 3,000 lb. Gauge Oxygen Regulator.....	24.80
1 Airco 500 lb. Gauge Acetylene Regulator.....	20.00
1 Wrench.....	.75
2 25 Ft. Lengths Special Hose.....	4.20
2 High Pressure Hose Connections.....	1.44
1 Goggles.....	2.60
1 Lighter.....	.20
1 Carrying Case.....	6.75
Airco Type B Welding Outfit, Complete.	
List Price.....	\$90.74

AIRCO WELDING AND CUTTING TORCH

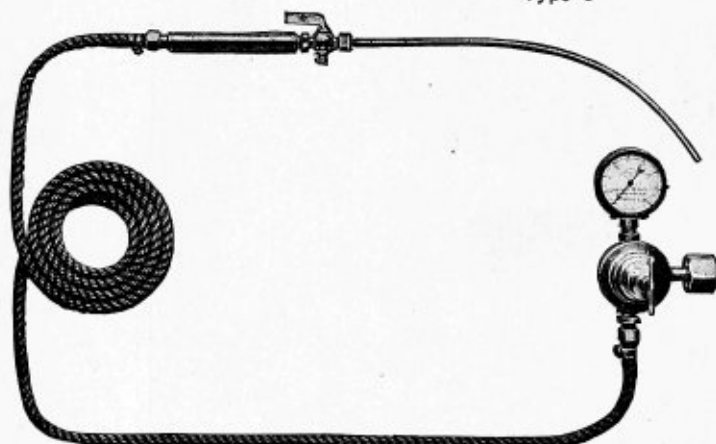
Type "AD"

This outfit includes both welding and cutting torches and is intended for shops having a wider range of work. Outfit includes—

1 Airco Type A Welding Torch, complete with 5 Interchangeable Tips and Wrench.....	\$50.00
1 Airco Type B Standard Cutting Torch, complete with 4 Tips and Wrench.....	74.00
1 Airco 3,000 lb. Gauge Oxygen Regulator.....	24.80
1 Airco 500 lb. Gauge Acetylene Regulator.....	20.00
1 Wrench.....	.75
2 25 Ft. Lengths High Pressure Hose.....	4.20
High Pressure Hose Connections.....	1.44
Goggles.....	2.60
1 Lighter.....	.20
1 Carrying Case.....	6.75
Airco Type "AD" Cutting and Welding Torch Complete. List Price.....	\$184.74

AIRCO LEAD BURNING OUTFIT

Type C



A high grade Lead Burning Outfit which includes a special type of torch designed to eliminate back fires and produce a hot pointed flame. Outfit includes—

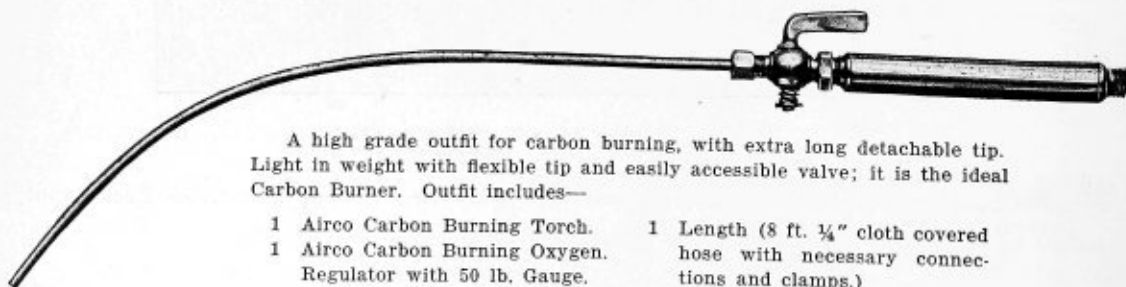
1 Airco Type C Torch with 4 Interchangeable Tips.....	\$14.40
1 Airco Special Acetylene Regulator.....	10.00
1 Airco Special Oxygen Regulator.....	10.00
2 25 Ft. Lengths High Pressure Hose.....	3.00
High Pressure Hose Connections.....	.72
1 Lighter.....	.20
Airco Type C Lead Burning Outfit, Complete. List Price, complete.....	\$38.32

AIRCO DECARBONIZING OUTFIT

A high grade outfit for carbon burning, with extra long detachable tip. Light in weight with flexible tip and easily accessible valve; it is the ideal Carbon Burner. Outfit includes—

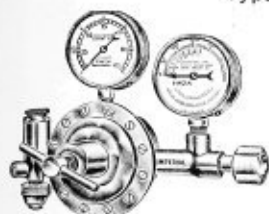
1 Airco Carbon Burning Torch.	1 Length (8 ft. 1/4" cloth covered hose with necessary connections and clamps.)
1 Airco Carbon Burning Oxygen Regulator with 50 lb. Gauge.	

Airco Decarbonizing Outfit, Complete. List Price.....\$15.00



IMPERIAL OXYGEN REGULATOR

Type A.



Regularly furnished with Imperial Welding and Cutting Outfits Nos. 1, 4 and 5.

Type A Oxygen Regulator Only, List Price.....\$28.00

IMPERIAL ACETYLENE REGULATOR

Type AA.



Regularly furnished with Nos. 1, 4 and 5 Imperial Welding Outfits.

Type AA Acetylene Regulator Only, List Price Each, \$25.00

IMPERIAL TANK TRUCK

For convenient moving of Oxygen and Acetylene Tanks in connection with welding, etc. outfits. Made in two sizes:

No. 51-H for 2 100 cu. ft. tanks.

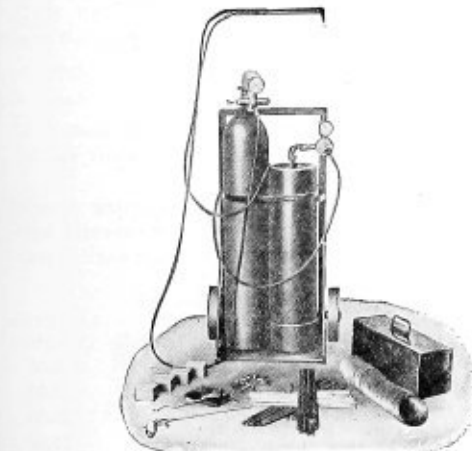
No. 52-H for 1 200 cu. ft. and 1 300 cu. ft. tanks.

Wheels are 11" in diameter with broad tread for moving over irregular surfaces.

List Price Each.....\$

No. 51H. List Price.....\$

No. 52H. List Price.....\$



DYER CARBON BURNING OUTFIT

No. "E."



A complete practical Carbon-Burning Outfit for use with oxygen gas.

Outfit includes flexible nozzle torch with convenient trigger valve; strong, high pressure regulator, and special oxygen hose; complete with necessary coupling, etc. Weight 5 3/4 lbs.

Dyer Carbon-Burning Outfit, List Price..... \$20.00

Torch and Nozzle Only, List Price..... 5.00

Outfit does not include tanks.

DYER BRAZING AND SOLDERING OUTFIT

No. "P" For Acetylene.



The Torch furnished with this outfit keeps a continuously heated iron and may be arranged for open flame work.

Invaluable for soldering work as a small intense flame is obtainable for delicate work. Highly recommended for Aluminum soldering.

Outfit includes Torch; 3 different sizes open flame tips; 1 Standard soldering copper; 1 special half-round soldering copper; 6 ft. hose and connections; 1 Prest-O-Lite gas connection, nut and nipple.

Dyer Brazing and Soldering Outfit, List Price, \$10.00

Outfit does not include tanks.

DYER WELDING AND CARBON REMOVING OUTFIT

Oxy-Acetylene.

A complete outfit which will handle all requirements in the average garage or repair shop. Included with this outfit is a cylinder truck, enabling the gas cylinders to be moved about the garage as desired.

Outfit includes one No. H-2 Welding Torch with 10 tips, sizes 0 to 9, inclusive; 1 No. R-2 Double Gauge Oxygen Regulator; 1 No. R-4 Single Gauge Acetylene Regulator; 1 Carbon Removing Torch; 1 Pair Goggles; 1 Prest-O-Lite Tank Connection; 2 lb. brass wire; 5 lb. steel wire; 1 lb. aluminum rods; 1 lb. Tobin bronze rod; 10 lbs. cast iron rods, and a generous supply of fluxes for all materials.

Outfits are packed in neat steel carrying case with lock and instruction book.

One No. T3 Cylinder Truck for one 100 cu. ft. and one 200 cu. ft. cylinders. Weight of truck 77 lbs. Weight of outfit without truck 41 lbs.

No. A Welding and Carbon Removing Outfit

Complete, List Price.....\$85.00

Outfit does not include tanks.

HAUCK KEROSENE TORCHES

Made in a wide range of styles for every purpose. By utilizing kerosene, which costs but a fraction of gasoline, the operating expense is reduced to a minimum. An extremely hot blue flame, without soot or smoke, is produced by means of the ingenious construction of the Hauck Burner. Pressure tanks are made of seamless welded steel and each burner is equipped with the proper automatic check valve, preventing back pressure getting into tank and keeping tank cool at all times.

HAUCK PORTABLE BURNER OUTFIT

Burns Kerosene



"One-Man Outfit"

No compressed air required. Burner is of the vaporizing type, operating without compressed air. Especially suitable for shop or outside work. A few moment's pumping gives 30 to 60 lbs. air pressure in tank (needed to force oil to burner) and produces intense heat. Operates for several hours on one pumping.

Welded steel tank with quick-acting, 2" diameter long stroke; brass pump built inside tank. Burner, special heat-resisting metal, easily cleanable. Hose, special oil-resisting type.

No.	of Tank	of Hose	per Hour	Weight	Burner
11	3 Gal.	6 ft.	1 Gal.	45 lbs.	\$40.00
7A	6 Gal.	6 ft.	1 Gal.	60 lbs.	50.00
7	10 Gal.	12 ft.	1½ Gal.	80 lbs.	70.00
8	12 Gal.	12 ft.	2½ Gal.	95 lbs.	85.00
9	15 Gal.	12 ft.	3 Gal.	110 lbs.	98.00

HAUCK COMPRESSED AIR TYPE BURNER OUTFITS

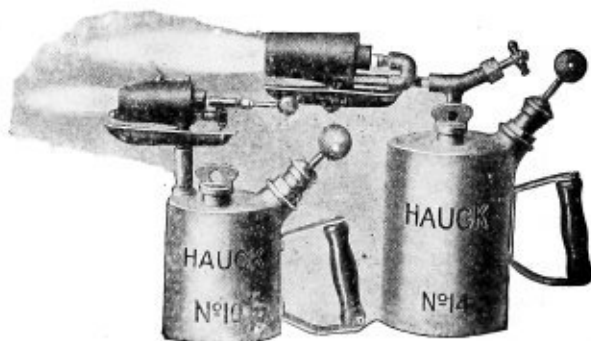


"One-Man Outfit"

Compressed air and kerosene are mixed without being discharged by burner, resulting in complete combustion at tremendous heat. Simple in construction and absolutely safe. No generating necessary; simply turn on air and oil and light. Flame may be regulated to any desired heat. Tank, seamless steel brazed, 150 lb. pressure gauge. Latest type burner with oil needle valve strainer and air regulated valve. High pressure oil resisting air hose. Fittings brass.

No.	Capacity of Tank	Length of Oil and Air Hose	Oil Consumption per Hour	Net Wt. Complete Outfit	List Price Complete
1	16 Gal.	12 ft. ea.	4 Gal.	90 lbs.	\$125.00
2	15 Gal.	12 ft. ea.	3 Gal.	85 lbs.	105.00
4	12 Gal.	12 ft. ea.	2 Gal.	70 lbs.	85.00
5	10 Gal.	12 ft. ea.	1 Gal.	60 lbs.	75.00
5A	5 Gal.	12 ft. ea.	½ Gal.	45 lbs.	60.00

HAUCK HAND TORCHES



Nos. 14, 15, and 16 Hauck Torches will melt a ½" brass rod in two minutes or heat a 2" shaft red hot in five minutes.

Tank, welded steel. Pump, quick-acting type of heavy brass, 1" in diameter. Burner, special heat-resisting metal. Simply constructed and easily cleanable.

No.	Capacity	Oil Consumption per Hour	Length Full Flame	List Price Complete
10	1 Qt.	1 Pt.	8"	\$10.00
14	½ Gal.	1 Qt.	13"	16.00
15	1 Gal.	2 Qt.	16"	20.00
16	1½ Gal.	3 Qt.	18"	25.00

HAUCK PORTABLE BURNERS

Burns Kerosene

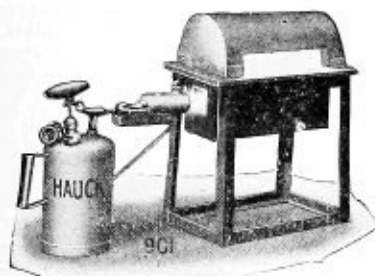


Uses same burner as Nos. 14 and 16 Torches and same tank, gauge, pump, hose, and fittings as Nos. 11 and 7-A Hauck Torches. More easily handled by operator than Nos. 14 and 16, as it has flexible connection, enabling use of burner in any desired position.

List Price					
No.	Capacity of Tank	Oil Consumption per Hour	Lgt. Full Flame	Lgt. of Hose	Complete One Burner
140	1 1/2 Gal.	1 Qt.	13"	6'	\$30.00
150	3 Gal.	2 Qt.	16"	6'	40.00
160	5 Gal.	3 Qt.	18"	6'	45.00
					65.00

Additional lengths of hose can be furnished if ordered.

HAUCK HEATING FURNACE



This Furnace is especially adapted for heating soldering irons, light blacksmithing, tool dressing, annealing, hardening, rivet heating, etc. Furnace is 10" long x 10" wide x 7" high, lined with firebrick. Opening is 4" wide x 2" high.

Hauck Furnace, Complete with No. 14 Torch.

List Price\$28.00

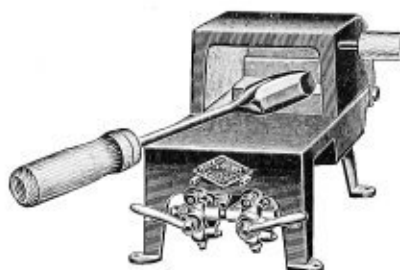
Hauck Furnace only, without Torch. List Price.. 12.00

NOTE.—It is an easy matter to build a practical home-made furnace from loose firebrick at a nominal cost.

GAS SOLDERING FURNACES

Where gas is available it is always the cheapest and most convenient fuel to use. With these furnaces no air blast is required and a heat of 1800° F. is obtainable. Each Furnace is lined with special refractory material and cannot burn through.

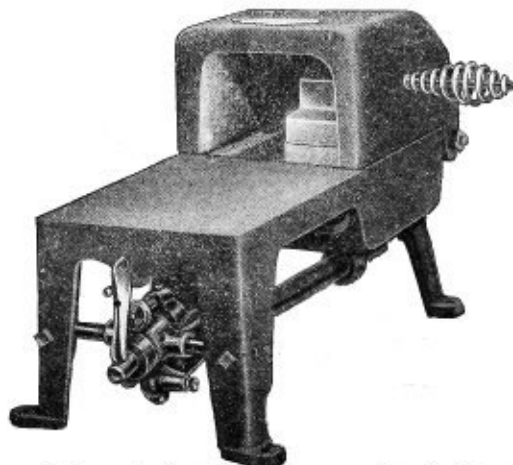
No. 101 GAS FURNACE



Will heat two 10 lb. soldering coppers or heat treat small dies, gears, tubes, chisels, etc. Equipped with two separate burners with pilot lights. Fire box opening 4 1/2" to 2 3/4". Size of furnace chamber 3 3/4" x 4 1/2" x 5 1/2". Length over all 14". Weight 18 lbs. Gas consumption 12 cu. ft. per burner per hour.

No. 10 Gas Furnace.
List Price.....\$14.00

No. 1 GAS SOLDERING FURNACE



A low priced smaller furnace equipped with one burner and pilot light. Particularly recommended for heating, soldering, coppers, etc. Length 12". Fire pot opening 3 1/2" x 2 1/2". Weight 12 lbs. Gas consumption 10 cu. ft. per hour.

No. 1 Gas Furnace.
Price List.....\$11.00

No. 118 GAS FURNACE



Invaluable for heat treating small tools, dies, etc. This furnace will successfully heat three large soldering coppers and at the same time keep melted a 20 lb. melting pot of soft metal. Size of fire box 6 1/4" x 5" x 6 1/2". Mouth 4" x 6". Length 16". Height 9 1/2". Width of side openings in hood 2 3/4". Net weight 45 lbs. Equipped with three burners with pilot lights and 6" diam. melting pot. Gas consumption 40 cu. ft. per hour.

No. 118 Gas Furnace.
List Price.....\$27.50

BLOW TORCHES

Turner No. 215.



A single jet, high grade medium priced gasoline torch equipped with improved closed generator type burner for either indoor or outside use. Equipped with detachable soldering iron holder. Capacity 1 qt., height over all 9 3/4", diameter 4". Weight 3 1/4 lbs. Fuel consumption 1/2 pt. per hour. Finished in polished brass.

NO 215 Blow Torch. List Price.....\$11.00

BLOW TORCH

Turner No. 92.



A double jet gasoline torch producing an intensely hot flame. May be used for light brazing, annealing and paint burning. The highest grade blow torch we carry. Capacity 1 qt. Height over all 9 1/2". Diameter 4". Weight 3 lbs. Fuel consumption 3/4 pt. per hour. Polished brass.

No. 92 Blow Torch. List Price.....\$14.00

BLOW TORCH

Turner No. 315.



Similar to No. 215 Torch except that it is made with one pint fuel capacity and slightly smaller burner. Equipped with detachable soldering iron holder. Capacity 1 pt. Height over all 7 3/4". Diameter 3 1/2". Weight 2 lbs. Fuel consumption 1/3 pt. per hour.

No. 315 Blow Torch. List Price, Each.....\$9.75

C-H ELECTRIC SOLDERING IRON



Attaches to regular lighting circuit and stays hot as long as needed. Saves the time usually wasted in heating the old fashioned soldering iron. Absolutely safe, as the heater coil is hermetically sealed inside body and iron and the copper tip screwed over the heater core. Handle remains cool at all times. Prices include 6 ft. extension cord, attachment plug and standard copper tip. Furnished regularly for 110 V. A. C. or D. C. current.

No.	Length		Diam. of Tip	Weight	List Price
	Over All				
5202.....	12"		3/4"	3/4 lb.	\$ 9.25
5203.....	12 1/2"		1"	1 lb.	11.00
5204.....	13"		1 1/4"	2 lb.	15.00
5205.....	13 1/2"		1 3/4"	3 lb.	24.00

SOLDERING COPPERS

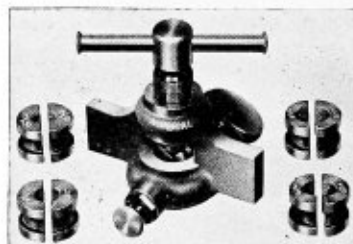


Well made with securely attached iron shank. Prices do not include handles.

No. 1 Soldering Copper, weight 1 lb.	
List Price.....	\$1.05
No. 2 Soldering Copper, weight 3 lbs.	
List Price.....	\$2.00
No. 3 Soldering Copper, weight 3 lb.	
List Price.....	\$2.70
No. 4 Soldering Copper, weight 4 lb.	
List Price.....	\$3.60

IMPERIAL FLARING TOOL

For Flaring Copper Tubing



A new tool for flaring copper tubing to make up S. A. E. joints, etc., in garage and repair shop. An invaluable device in large shops, as it enables accurate and quick work on 3/8", 1/2", 5/8", and 3/4" tubing without the possibility of splitting tubing. The Imperial Flaring Tool may be used on the work-bench or on the job itself.

Packed in neat wood box with hinged cover. Imperial Flaring Tool. List Price Complete.....\$9.00

HANDLES

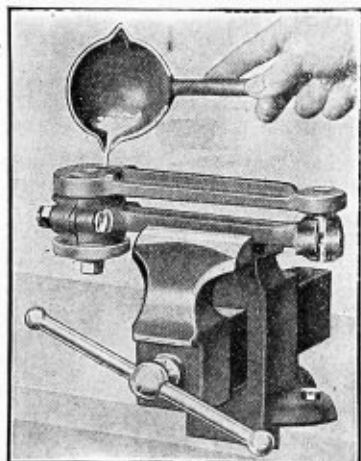
For Soldering Coppers



Neatly finished hardwood with brass ferrule. List Price Each.....\$.15

TRIBUNE BABBITTING JIG

For Ford Connecting Rods



A low priced tool that enables the repair shop to accurately re-babbitt Ford connecting rod bearings at the cost of a few cents' worth of babbitt. Requires no special skill to use as the rod is held so that both holes are exactly parallel, thereby avoiding a big job of scraping in. Jig is adjustable in length to provide for variations in length of Ford connecting rods. Illustration shows simple method of operation. Tool is complete, ready for use.

Tribune Babbitting Jig. List Price.....\$2.50

WELDING RODS



We carry a large stock of welding rods in cast iron, Norway iron, aluminum bronze, soft brass, tobin bronze, etc. We guarantee the quality and purity as being the best obtainable. Length 18" to 36".

Cast Iron.

Diam., In.	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
List Price, per lb.	.40	.35	.30	.30

Norway Iron (Copper Coated.)

Diam., In.	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
List Price, per lb.	.47 $\frac{1}{2}$	.45	.45	.45

Tobin Bronze.

Diam., In.	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$
List Price, per lb.	\$2.00	2.00	1.50

Cast Brass.

Diam., In.	$\frac{1}{4}$
List Price, per lb.	\$1.50

Drawn Aluminum.

Diam., In.	$\frac{1}{4}$
List Price, per lb.	\$1.85

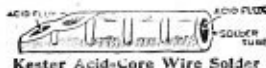
Cast Aluminum.

Diam., In.	$\frac{1}{4}$
List Price, per lb.	\$2.50

Nickel Steel.

Diam., In.	$\frac{1}{4}$	$\frac{3}{8}$
List Price, per lb.	.75	.85

ACID CORE WIRE SOLDER



A self fluxing wire solder. Comes on spools of one and five lbs., the solder consisting of a series of hollow cells filled with acid soldering flux. As each cell is separated from other cells any excess flux can flow from remaining cells. May be used without soldering iron if desired. Insure a clean soldering job. Acid Core Wire Solder.

List Price, per lb. \$1.00

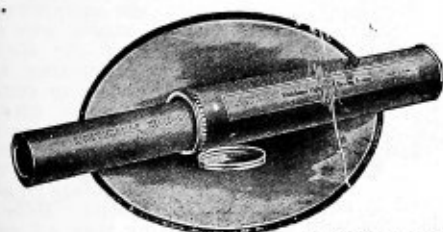
SOLDER

Best quality "Half and Half Solder." Carried in bars of about 1 $\frac{1}{2}$ to 2 lbs. Wire solder carried in 5 to 10 lb. spools.

Bar Solder. List Price, per lb. \$.85

Wire Solder. List Price, per lb. .90

HIGH SPEED BEARING BRONZE



A high grade bearing bronze suitable for any kind of automobile bushings. Length 12 inches.

In ordering specify inside and outside diameter. List Price, per lb. \$1.20

SHIM STOCK

Brass or Steel



Guaranteed uniform in thickness. Comes in rolls 2 $\frac{1}{2}$ " wide, one roll of each of the following thicknesses being included in can, thus giving a complete assortment of .002, .005, .010, .015 in each can.

Full Assortment, 500 square inches, 4 different sizes in can. List Price \$2.00

Half Assortment, 250 square inches, 4 different sizes in can. List Price 1.10

Ford Assortment, 100 Assorted Shims ready cut for use on Ford cars, Nos. 3037, 3038, 3039. List Price 1.10

ALUMINUM SOLDER

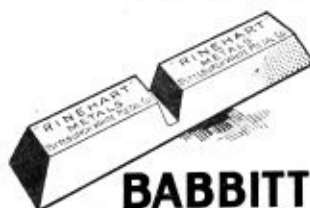


Supreme Aluminum Solder fills the long felt want for a high grade, dependable aluminum Solder that has a low melting point. Supreme Aluminum Solder melts at 100° F. and may be used with soldering iron or gasoline torch. Requires no acids or flux. Carried in stock on neat counter display cards containing 24 two ounce bars neatly displayed.

List Price, per 2 oz. bar \$.50

Counter Display Stand with 24 2 oz. Bars. List Price 12.00

BABBITT METAL

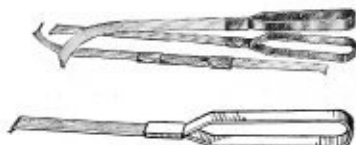


BABBITT METAL

S. A. E. specifications, high speed babbitt metal. Best grade copper, antimony and tin which comes in 5 lb. pigs. This is the same babbitt as is used by a large number of automobile manufacturers and will give perfect service.

List Price, per lb. \$1.25

FLEXIBLE CARBON SCRAPERS



Consists of three tools reaching all parts of combustion chamber. Made of flexible spring steel wire with six spring steel fingers that effectually remove all carbon deposits. Made in two sizes. No. 1 for small bore motors, No. 2 for larger motors. Flexible Carbon Scrapers, either size.

List Price, per set.....\$1.50

DOUBLE-END CARBON SCRAPERS

Vichek No. 822.

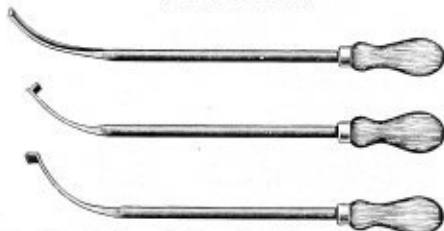


Made of $\frac{1}{2} \times \frac{1}{16}$ " special flexible steel to permit bending and reaching any angle of combustion chambers. Ends are tempered and ground sharp. No. 822 Double End Carbon Scrapers.

List Price, per dozen.....\$1.65

CARBON SCRAPERS

Vichek No. 820.



Special steel with hardened and ground points and wood handles. Packed one set of three as shown in illustration in box. No. 820 Carbon Scrapers.

List Price, per set.....\$.75

THREE-SQUARE BEARING SCRAPERS

B-M No. 30.



Best tool steel carefully tempered and ground with $3\frac{1}{4}$ " blade and hardwood handle. Packed $\frac{1}{2}$ doz. in box.

No. 30 Three-Square Scraper.

List Price, Each.....\$.65

MACHINISTS' AUTO BEARING SCRAPERS

Vichek No. 561.

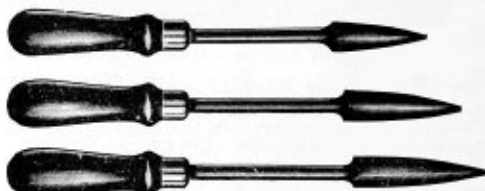


Drop forged tool steel, polished blade and ebony shank with wood handle. Edges carefully ground and tempered. Length 11". Packed $\frac{1}{2}$ doz. in box. No. 561 Auto Bearing Scrapers.

List Price, per dozen.....\$4.35

MACHINISTS' HOLLOW GROUND BEARING SCRAPERS

Vichek No. 563.



High grade tool steel with polished blades and ebony shank. Wood handle. Carefully ground and tempered. Sold only in sets of three as shown in illustration.

No. 563 Hollow Ground Bearing Scrapers

List Price, per set.....\$1.20

MACHINISTS' NON-CHATTERING BEARING SCRAPERS

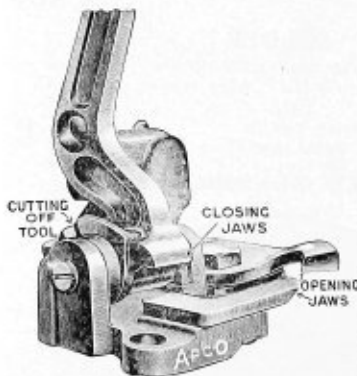


Hand forged from high grade tool steel with tempered and ground edges. Positively non-chattering. Leather holster fits over each blade to prevent injury. Polished blades, ebony with wood handle. Sold in sets of three in wooden box.

No. 550 Vichek Non-Chattering Bearing

Scrapers. List Price, per set.....\$2.75

APCO TIRE CHAIN REPAIR TOOL

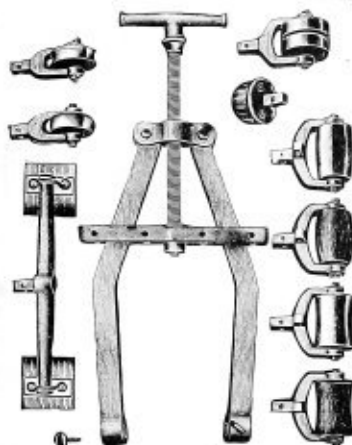


The only practical Chain Repair Tool on the market. As shown in illustration it opens or closes the side links for repair or replacement and is equipped with strong wire cutter for use in shortening side chain or cutting cross chain hooks if so desired. Attaches by means of two bolts to work

bench and is equipped with 18" handle. Made of malleable iron with tool steel cutting jaws, all wearing parts hardened and adjustable. Neatly finished in black enamel and packed complete with bolts and handle in strong box.

Apco Tire Chain Repair Tool. List Price.....\$10.00

STILES FENDER STRAIGHTENER



One of the most valuable time-saving tools ever made. Straightens into original shape the worst

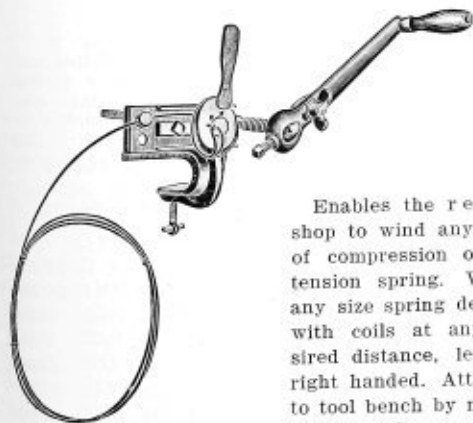


damaged fender in a few moments' time. Saves hours of hammering and does not injure paint, thus affecting a double saving. Operates on the simple

principle of a powerful screw-clamp with a series of different shaped rollers and blocks, enabling the mechanic to straighten out fender into original shape. Cannot mar finish or paint. A repair shop equipped with this tool can straighten out all fenders without removal from car in one-tenth of the time formerly required.

Stiles Fender Straightener, Complete with all Attachments. List Price.....\$30.00

THORNBURGH SPRING WINDER



Enables the repair shop to wind any type of compression or extension spring. Winds any size spring desired with coils at any desired distance, left or right handed. Attaches to tool bench by means of one clamp screw.

Sold complete with one $\frac{1}{2}$ " mandrel. For larger sizes simply use a piece of pipe as a mandrel.

Thornburgh Spring Winder.
List Price, Each.....\$7.50

CONTINENTAL STEEL CREEPERS



An extra large, strongly built Creeper that is really comfortable for the mechanic to work on. Size 20" x 44". Made of strong steel strips that conform to shape of body; securely braced with steel angle frame and comfortable oil-proof cloth covered head rest. Double wheel ball-bearing castors. Shipping weight, 50 lbs.

Continental Creepers. List Price.....\$9.50

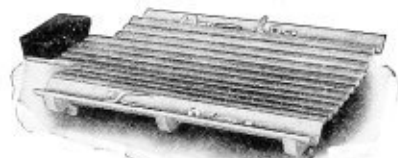
BADGER ALL-STEEL CREEPER



A new type Creeper which will outwear several ordinary wooden Creepers. Platform is built of heavy stamped steel with a padded head rest and convenient tray for tools. Strong angle iron cross-braces with roller-bearing castors give added strength. Very comfortable, due to its shape.

Badger All-Steel Creeper. List Price, Each.....\$7.50

WOOD CREEPERS



Made of best quality hardwood, neatly finished with upholstered head rest and ball-bearing castors. Both sides have small tool tray as shown in illustration. Size, 22" x 36".

Wood Creepers. List Price, Each.....\$3.00

WHEEL ALIGNER



Consists of a simple device for determining the exact alignment of front wheels. As shown in illustration device is adjustable for different treads or tire sizes. Made of steel tubing with graduated pointer on each arm. Also instantly shows whether rear wheels are in alignment.

Wheel Aligner. List Price.....\$10.00

VISES

MACHINISTS' VISE

Malleable Iron



Columbian Series 600

Annealed malleable iron. Solid jaw with swivel base, adjustable in any desired position. Jaw facings tempered tool steel, replaceable at nominal cost. Screw and head one piece solid forgings. Vises with larger than a 6" jaw furnished with two swivel clamping nuts.

Vise No.	Width Jaw	Depth		Weight	List Price
		Jaws Open	Jaws Opening		
602	2"	3"	2"	12 lbs.	\$10.50
602½	2½"	3½"	2½"	17 lbs.	12.00
603	3"	4½"	2½"	25 lbs.	13.00
603½	3½"	5"	2½"	35 lbs.	15.00
604	4"	6"	2½"	44 lbs.	17.00
604½	4½"	7"	3½"	56 lbs.	20.00
605	5"	8"	4"	74 lbs.	30.00
605½	5½"	9"	4"	86 lbs.	38.00
606	6"	10"	4½"	90 lbs.	52.00
607	7"	12"	5½"	126 lbs.	70.00
608	8"	13"	5½"	165 lbs.	98.00

MACHINISTS' VISE

Malleable Iron



Columbian Series 500

Annealed malleable iron. Solid jaw, stationary base. Jaw facings tempered tool steel, replaceable at nominal cost. Screw and head one piece solid forgings.

Vise No.	Width Jaw	Depth		Weight	List Price
		Jaws Open	Jaws Opening		
502	2"	3"	2"	9 lbs.	\$ 8.25
502½	2½"	3½"	2½"	13 lbs.	9.00
503	3"	4½"	2½"	20 lbs.	10.00
503½	3½"	5"	2½"	27 lbs.	11.25
504	4"	6"	2½"	36 lbs.	12.75
504½	4½"	7"	3½"	46 lbs.	15.50
505	5"	8"	4"	58 lbs.	20.00
505½	5½"	9"	4"	75 lbs.	30.00
506	6"	10"	4½"	82 lbs.	39.00
507	7"	12"	5½"	116 lbs.	55.00
508	8"	13"	5½"	150 lbs.	75.00

ADJUSTABLE JAW MACHINISTS' VISE



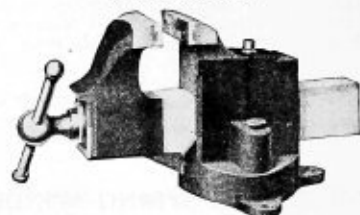
Columbian Series 300

Annealed malleable iron. Adjustable jaw, stationary base. Jaw facings tempered tool steel, replaceable at nominal cost. By removing pin from the back jaw, vise will swivel to any required position for holding irregular or tapered work securely. Screw and head one piece solid forgings.

Vise No.	Width Jaw	Jaws Open	Weight	List Price
302	2"	2½"	13 lbs.	\$11.50
302½	2½"	3"	17 lbs.	13.50
303	3"	4"	24 lbs.	15.00
303½	3½"	4¾"	28 lbs.	16.00
304	4"	5¼"	41 lbs.	19.00
304½	4½"	6"	54 lbs.	22.00
305	5"	7½"	78 lbs.	28.00
305½	5½"	9"	110 lbs.	35.00
306	6"	9½"	146 lbs.	50.00
307	7"	11"	184 lbs.	65.00
308	8"	12"	270 lbs.	90.00

ADJUSTABLE JAW MACHINISTS' VISE

Malleable Iron



Columbian Series 400

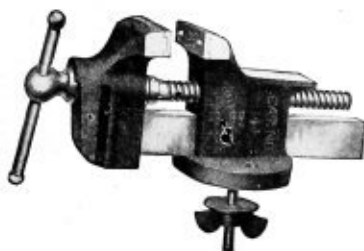
Adjustable jaw and swivel base. Annealed malleable iron. Screw one-piece forging. Jaw facings tempered tool steel, replaceable at nominal cost. Jaw swivels easily to any required position. By removing pin from back jaw, vise will swivel to any required position for holding irregular or tapered work securely.

Smooth faced jaws can be furnished when desired without additional cost.

Vise No.	Width Jaw	Jaws Open	Weight	List Price
402	2"	2½"	15 lbs.	\$13.50
402½	2½"	3"	20 lbs.	16.00
403	3"	4"	26 lbs.	17.50
403½	3½"	4¾"	32 lbs.	20.00
404	4"	5¼"	46 lbs.	24.00
404½	4½"	6"	65 lbs.	28.00
405	5"	7½"	90 lbs.	35.00
405½	5½"	9"	118 lbs.	44.00
406	6"	9½"	168 lbs.	60.00
407	7"	11"	207 lbs.	75.00
408	8"	12"	300 lbs.	105.00

MACHINISTS' VISE Columbia

May be used either stationary or swivel. Constructed with specially hardened malleable iron anvil and jaws. Sliding bar wrought steel. Jaw facings tempered tool steel, replaceable at nominal cost. A very serviceable low-priced vise.



No.	Width Jaws	Jaws Open	Weight	List Price
143	3"	3½"	12 lbs.	\$5.00
144	4"	6"	30 lbs.	8.25

PIPE VISE Columbia

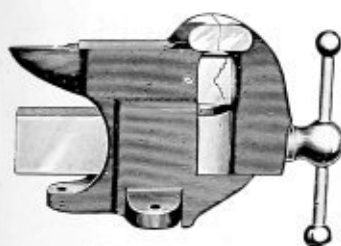
Hinged jaws with tempered tool steel jaw facings. Equipped with quick locking device.



No.	Holds Pipe	List Price
2600	½" to 1½"	\$2.50
260	½" to 2"	4.25
261½	½" to 3½"	7.50
262	½" to 4½"	11.00

Malleable Iron

ROCK ISLAND AUTOVISE Stationary Type

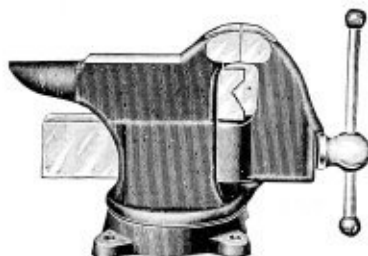


Specially designed for garages and repair shops. Combines a sturdy anvil with a double-duty vise for handling flat surfaces and pipe jaws for holding pipes

or rods. Very popular for private garage use.

No.	Width	Jaw Cap. Pipe	Weight	List Price
231	3"	½" to 1½"	32 lbs.	\$10.00
232	4"	½" to 2"	65 lbs.	14.00

ROCK ISLAND AUTOVISE Swivel Type

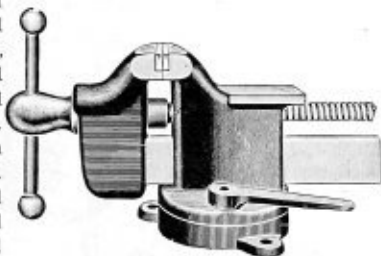


Specially adapted for automobile repair work, as it combines a serviceable anvil with a vise for handling round objects. Made extra strong to handle any kind of heavy repair work.

No.	Width	Jaw Cap. Pipe	Weight	List Price
240	3"	½" to 1½"	42 lbs.	\$13.00
241	4"	½" to 2"	80 lbs.	16.00

ROCK ISLAND STEEL VISE Swivel Type

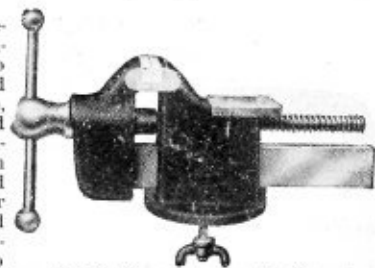
Constructed with steel beam, screws, handles, and Crucible tool steel jaws. Provided with strong anvil. All finished parts polished and provided with swivel base.



No.	Width	Held in position by Jaw Cap. Pipe	tightening lever. Weight	List Price
341	2½"	3"	13 lbs.	\$ 4.50
342	3"	3½"	15 lbs.	5.50
343	3½"	4"	19 lbs.	7.00
344	4"	6"	32 lbs.	10.25
345	4½"	7½"	45 lbs.	15.00

ROCK ISLAND STEEL VISE Stationary Type

Similar in design and construction to Rock Island Swivel Vise, but furnished with stationary base. Each Vise equipped with center bolt, nut, and washer for fastening to bench. Holes also drilled for permanently fastening to bench.



No.	Width	Jaw Cap. Pipe	Weight	List Price
351	2½"	3"	12 lbs.	\$ 3.75
352	3"	3½"	14 lbs.	4.75
353	3½"	4"	19 lbs.	5.25
354	4"	6"	30 lbs.	8.25
355	4½"	7½"	43 lbs.	12.00

UNIVERSAL CLAMPING JAWS

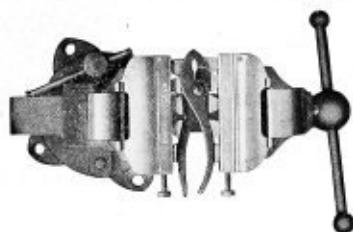


For use with bench vise, enabling it to be used as a pipe vise or for holding round objects. Capacity, $\frac{1}{4}$ " to $\frac{3}{4}$ ".

Universal Clamping Jaws.

List Price \$.40

UNIVERSAL VISE JAW EQUALIZER

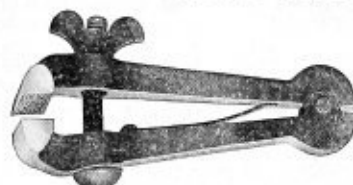


A supplementary Vise Jaw which adapts itself to odd shape objects, converting ordinary square jaw vise into a many-purpose tool. Will hold pipe, pistons, etc., without injury, and may also be used on millers, shapers, etc. Made of cold rolled tempered tool steel, electrically welded, with six points of contact on each jaw. Absolutely equalizes clamping pressure and fits in shape of style vise. Made in two sizes, 4" and 5".

4" Set. List Price \$8.00

5" Set. List Price 9.00

HAND VISE



A useful little tool for holding small parts for grinding, riveting, etc. Length 5"; width of jaws, $1\frac{1}{2}$ ". Jaws are opened by a heavy spring and

closed with thumb nut screw bolt. Steel castings finished black with polished jaws.

No. 3 Hand Vise. List Price, Each \$2.00

"C" CLAMPS

For Heavy Duty.



hardened and tempered with drop forged swivels.

No.	Capacity	Length Over All	Depth of Throat From Center of Screws	List Price
402	2"	4 $\frac{3}{8}$ "	1 $\frac{3}{8}$ "	\$1.25
403	3"	5 $\frac{5}{8}$ "	2"	1.60
404	4"	7"	2 $\frac{3}{8}$ "	1.95
406	6"	6 $\frac{3}{8}$ "	3"	2.65
408	8"	8 $\frac{3}{8}$ "	3 $\frac{3}{8}$ "	3.50
410	10"	11"	3 $\frac{3}{4}$ "	4.35
412	12"	12 $\frac{1}{2}$ "	4"	5.70

"C" CLAMPS



Made of malleable iron with solid steel screws and swivel head. Constructed to withstand severe abuse under all shop conditions. A good serviceable clamp.

Capacity	2 $\frac{1}{2}$ "	3	4	5
List Price Each	\$.75	\$1.00	\$1.25	\$1.50
Capacity	6	7	8	10
List Price Each	\$1.75	\$2.25	\$2.60	\$3.50

ANVILS

Crucible Steel



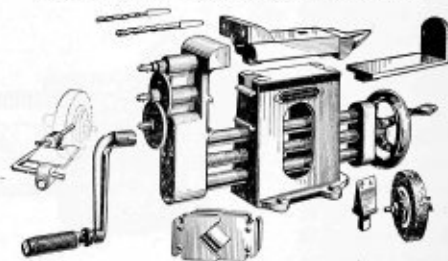
Made of one-piece best quality crucible steel, insuring the necessary ring and rebound. Width of base is always equal to height, thereby lowering center of gravity and insuring rigidity. Large flat surface which is milled before tempering, and ground after tempering to insure perfect finish and rectangular edges.

Weight of Anvil	Length of Base	Width of Base	Length of Horn	Height of Anvil
40 lbs.	10 $\frac{1}{4}$ "	2 $\frac{3}{4}$ "	5 $\frac{1}{8}$ "	6 $\frac{3}{8}$ "
50 lbs.	11"	3"	5 $\frac{1}{2}$ "	6 $\frac{7}{8}$ "
60 lbs.	12"	3"	6"	7 $\frac{1}{2}$ "
70 lbs.	12 $\frac{1}{2}$ "	3 $\frac{1}{4}$ "	6 $\frac{1}{4}$ "	7 $\frac{3}{4}$ "
80 lbs.	13 $\frac{3}{8}$ "	3 $\frac{1}{4}$ "	6 $\frac{3}{4}$ "	8 $\frac{3}{8}$ "
90 lbs.	13 $\frac{3}{4}$ "	3 $\frac{1}{2}$ "	6 $\frac{3}{4}$ "	8 $\frac{1}{2}$ "
100 lbs.	14 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	7 $\frac{1}{4}$ "	9 $\frac{1}{4}$ "
110 lbs.	14 $\frac{3}{4}$ "	3 $\frac{3}{4}$ "	7 $\frac{3}{8}$ "	9 $\frac{1}{4}$ "
120 lbs.	15 $\frac{3}{8}$ "	3 $\frac{3}{4}$ "	7 $\frac{3}{8}$ "	9 $\frac{5}{8}$ "
130 lbs.	15 $\frac{7}{8}$ "	3 $\frac{3}{4}$ "	8"	10"
140 lbs.	16"	4"	8"	10"
150 lbs.	16 $\frac{1}{2}$ "	4"	8 $\frac{1}{4}$ "	10 $\frac{1}{4}$ "
160 lbs.	17"	4"	8 $\frac{1}{2}$ "	10 $\frac{3}{4}$ "
175 lbs.	17 $\frac{1}{4}$ "	4 $\frac{1}{4}$ "	8 $\frac{3}{8}$ "	10 $\frac{3}{4}$ "
200 lbs.	18"	4 $\frac{1}{2}$ "	9"	11 $\frac{1}{4}$ "
250 lbs.	19 $\frac{1}{4}$ "	4 $\frac{3}{4}$ "	9 $\frac{3}{4}$ "	12 $\frac{1}{4}$ "
300 lbs.	20 $\frac{1}{2}$ "	5"	10 $\frac{1}{4}$ "	12 $\frac{3}{8}$ "

NOTE.—For garage use we recommend an Anvil of about 150 lbs. as being the best all-purpose size.

Anvils. List Price, per lb. \$.30

STEWART HANDY WORKER



Particularly recommended for the small repair shop or private garage. Combines six tools in one. A substantial vise, anvil, drill press, grinder, pipe vise, and cutting hardie. Included with outfit are two drills and 5" grinding wheel. Neatly finished; a strong, serviceable tool. Weight, 90 lbs.

Stewart Handy Worker. List Price \$20.00

OUTSIDE AND INSIDE SPRING CALIPERS

Brown & Sharpe Nos. 811-812



No. 812



No. 811

Made with spring nut or solid nut. Spring nut enables quick adjustment to desired width.

No. 811 OUTSIDE CALIPERS

Size	List Prices	
	With Spring Nut	With Solid Nut
2 1/2"	\$1.10	\$.88
3"	1.15	.93
4"	1.21	.99
5"	1.27	1.10
6"	1.32	1.15
8"	1.54	1.32

No. 812 INSIDE CALIPERS

Size	List Prices	
	With Spring Nut	With Solid Nut
2 1/2"	\$1.10	\$.88
3"	1.15	.93
4"	1.21	.99
5"	1.27	1.10
6"	1.32	1.15
8"	1.54	1.22

FIRM JOINT CALIPERS

Brown & Sharpe Nos. 821-822



No. 822



No. 821

Made with main stud square and fitted to one leg, preventing studs from slipping and insuring a smooth and uniform friction at desired tension.

No. 821 OUTSIDE CALIPERS

Size	List Price	Size	List Price
3"	\$.55	10"	\$1.21
4"	.66	12"	1.32
5"	.77	14"	2.00
6"	.88	16"	2.30
8"	1.10		

No. 822 INSIDE CALIPERS

Size	List Price	Size	List Price
3"	\$.55	10"	\$1.21
4"	.66	12"	1.32
5"	.77	14"	2.00
6"	.88	16"	2.31
8"	1.10		

HERMAPHRODITE CALIPERS

Firm Joint

Brown & Sharpe No. 835

Tempered

Made with main stud square and fitted to one leg, preventing studs from slipping, thus insuring a smooth and uniform friction at desired tension.



No.	Size	List Price
835	4"	\$.66
835	6"	.88
835	8"	1.10

REED MICROMETERS



In response to a demand for a line of accurate, finely finished, yet medium-priced Micrometers, we offer the Reed line of Micrometers which are guaranteed accurate within .0001 of an inch. Frame is best quality drop forged steel with concave web, affording a convenient finger hold. Measuring surfaces are carefully hardened. Finished in dull nickel.

We carry in stock the following Micrometers reading in .001 of an inch.

No.	Range	List Price	No.	Range	List Price
700	0 to 1/2"	\$5.50	704	3 to 4"	\$8.50
701	1 to 2"	6.25	705	4 to 5"	9.25
702	1 to 2"	7.00	706	5 to 6"	10.00
703	2 to 3"	7.75			

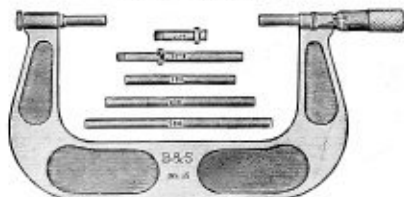
For Lock Nut add 50c to list.

For Ratchet add 50c to list.

MICROMETER CALIPERS

Brown & Sharpe No. 55

Range 3" to 6".



Measures all sizes from 3" to 6" by .001 inch. Three anvils are furnished: long anvil from 4" to 5"; short anvil from 5" to 6". Anvils are provided with means for adjustment for wear and are easily inserted in frame and rigidly held by knurled nut. Provided with clamp ring which locks the spindle and preserves setting.

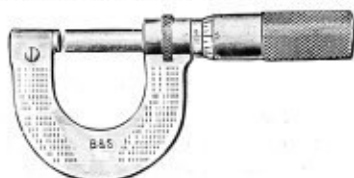
No. 55 Brown & Sharpe Micrometer Caliper, Complete with Standards. List Price.....\$26.95

No. 55 Brown & Sharpe Micrometer Caliper, Complete without Standards. List Price..... 20.10

Ratchet Stop, 50c extra.

MICROMETER CALIPERS

Brown & Sharpe No. 8—Range 0 to 1"



Measures all sizes less than 1" by .001 of an inch. Equipped with clamp ring which clamps spindle and preserves setting.

B. & S. No. 8 Micrometer Calipers. List Price...\$10.45
B. & S. No. 8 Micrometer Calipers, with Ratchet Stop.. List Price..... 11.00
Morocco Case, \$1.00 extra.

TUBULAR INSIDE MICROMETERS

Brown & Sharpe No. 270

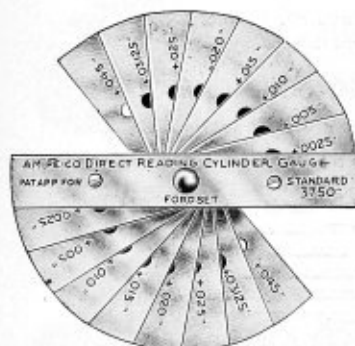


Light in weight and easy to handle. Particularly adapted for measuring cylinder diameters, etc. Measuring points are hardened and faces ground on a radius for measuring curved or parallel surfaces. Adjustable for wear by knurled adjustment nut. Fibre grips prevent inaccuracies due to heat of hand. Each micrometer is fitted with clamp screw, clamping, fitting and preserving clamp screw.

Range—2 to 2½, 2½ to 3, 3 to 3½, 3½ to 4, 4 to 4½, 4½ to 5. In ordering specify range desired.

No. 270 Brown & Sharpe Inside Micrometer.
List Price, Each.....\$6.60

AMPECO DIRECT READING CYLINDER GAUGE



A simple, practical device that insures absolute accuracy within .00025 of an inch and enables the mechanic to instantly determine the correct size piston rings necessary for any car. Gauge consists of a series of 9 small blades and is supplied for Ford, Dodge, Maxwell and Chevrolet sizes. Entirely eliminates expensive and delicate micrometers.

Ampeco Cylinder Gauge, any style.
List Price, Each.....\$2.50

SCRIBERS

Brown & Sharpe No. 778



Points finely tempered steel, threaded to screw into hole and knurled for finger grip. Points held by four-jaw chuck. Double points 8".

No. 778 B. & S. Scriber. List Price.....\$.40

INSIDE MICROMETERS

Brown & Sharpe No. 260



Consists of a holder with micrometer thimble graduated to .001 of an inch. Extension rods are graduated by a series of angular grooves that allow clamping fingers to spring in for quick and accurate adjustments.

No. of Rods	Range	List Price
5	2" to 9½"	\$9.90

SPRING DIVIDERS

Brown & Sharpe No. 810



Size	List Price with Spring Nut	List Price with Solid Nut
2½"	\$1.10	\$.88
3"	1.15	.94
4"	1.21	1.00
5"	1.27	1.10
6"	1.32	1.15
8"	1.65	1.48

UNIVERSAL SURFACE GAUGE

Brown & Sharpe No. 621

Allows a wide range of adjustment and so designed that moving parts may be firmly clamped in desired position.

A v-shaped groove in base especially adapts it in cylindrical work. A spindle, swivels and scriber may be used below base as depth gauge. Size of base, 3½" x 2½".



List Price, Complete with 9" and 12" Spindles....\$4.40

SPRING DEPTH GAUGES

Brown & Sharpe Nos. 612-615

Made in two sizes. No. 612 will measure to 3" depth.

No. 615 measures to 6" depth.

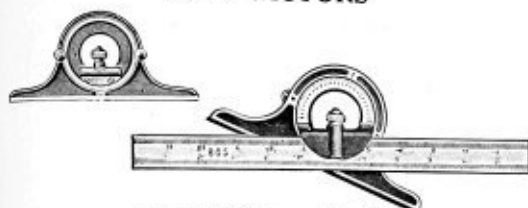
An accurate depth gauge for all purposes. Graduated in 64ths or 100ths.



No. 615

No. 612 B. & S. Depth Gauge.	List Price.....\$2.75
No. 615 B. & S. Depth Gauge.	List Price..... 1.65

PROTRACTORS



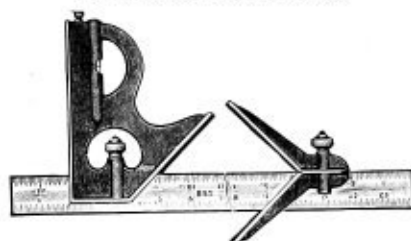
Brown & Sharpe No. 450

Made with tempered blade; graduated in 100ths, 12ths, 64ths. Revolving turret accurately graduated with zero at right angles to head and rigidly clamped by thumb nut.

Length	List Price	Length	List Price
9"	\$4.95	18"	\$6.60
12"	5.60	24"	7.60

COMBINATION SQUARES

Brown & Sharpe No. 400

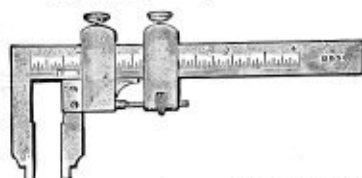


Head of squares are drop forged. Revolving turret in protractors carrying blade is accurately fitted and engine divided to 90°. May be clamped at any angle by thumb nut. Accurately set and fastened to turret. Blades are tempered. All blades interchangeable. Heads hardened. In ordering specify size.

No.	Size	List Price	No.	Size	List Price
400	6"	\$4.30	400	18"	\$6.60
	9"	4.95		24"	7.25
	12"	5.28			

CALIPER SQUARES

Brown & Sharpe No. 560



Each jaw or measuring point is fixed, being an integral part of bar. Other part is carried by sliding head and may be adjusted for accurate measuring. Quick adjustments may be secured by releasing both clamp screws and slide head required distance along bar. Made with hardened jaws and useful for inside and outside measurements. Graduated on one side to 64ths, on other side to 100ths.

Length of Jaws	Width of Jaws	List Price with Adjusting Screw	List Price without Adjusting Screw
4" 1 1/2"	1/4"	\$ 9.90	\$11.22
6" 2"	1/4"	11.88	14.52
9" 1 3/4"	3/8"	16.50	19.15

Morocco Case for 4" and 6", 75c extra.

Morocco Case for 9", \$1.00 extra.

GRADUATED STEEL SQUARES

Brown & Sharpe No. 544



Length of blade as given is extreme length over all.

Length of Blade	Length of Beam	List Price
3"	2"	\$ 4.30
4"	2 1/4"	6.27
6"	3 3/4"	8.25
9"	5"	13.20
12"	6 1/8"	15.84

TEMPERED STEEL RULES

Brown & Sharpe No. 303



Thickness 1/20". Width, 7/32". Graduated on one corner of each side only. In ordering specify length desired.

No.	Length	No. Graduations	List Price
303	4"	10, 11 or 12	\$.66
	6"	10, 11 or 12	.88
	9"	10, 11, or 12	1.32
	12"	10, 11 or 12	1.65

FLEXIBLE STEEL RULES

Brown & Sharpe No. 306



Graduated on One Side only

Length	Width	List Price	Length	Width	List Price
4"	1 1/2"	\$.66	12"	1 1/2"	\$1.65
6"	1 1/2"	.88	18"	3/4"	2.64
9"	1 1/2"	1.32	24"	3/4"	3.30

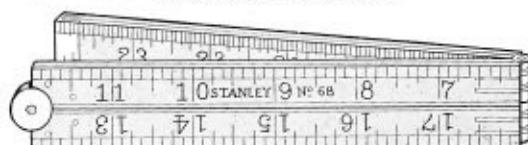
POCKET SLIDE CALIPER RULE

Brown & Sharpe No. 388



Graduated on one corner of one side to read 32ds; on the other side the slide is graduated to 64ths and has a range of 2". Slide may be securely clamped for particular measurement by clamp nut. Jaws, 5/16". Deep ribs may be inserted in holes 1/16" diameter. No. 388 Brown & Sharpe Pocket Slide Caliper Rule.

List Price, Each.....\$4.40

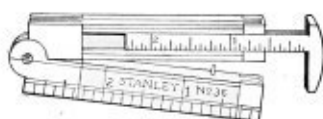
BOXWOOD RULE

Length 24", width 1". Four folds. Graduated in 16ths.

List Price, Each.....\$.50

Length 48", width 1". Eight folds. Graduated in 8ths.

List Price, Each.....\$.75

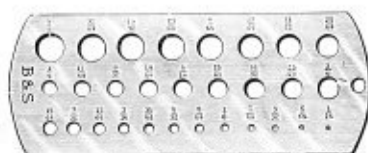
BOXWOOD CALIPER RULE

Made with caliper side brass. Length 6", width $\frac{3}{8}$ ", with two folds, graduated $\frac{1}{16}$ ".

List Price, Each.....\$.50

JOBBER'S DRILL GAUGE

Brown & Sharpe No. 710



For gauging twist drills. Made of steel, hardened and tempered. Carefully tested for accuracy. Gauge is finished in black or polished as desired. Measures all sizes from $\frac{1}{16}$ to $\frac{1}{2}$ by 64th inch.

No. 710 B. & S. Drill Gauge. List Price, Each, \$3.10

TWIST DRILL AND STEEL WIRE GAUGE

Brown & Sharpe No. 705

For gauging twist drills and steel wire Nos. 1 to 60, inclusive, with decimal equivalents shown on reverse side. Finished in black or polished as desired.

No. 705 B. & S. Twist Drill and Steel Wire Gauge.

List Price.....\$2.20

SPEED INDICATOR

Brown & Sharpe No. 748



A convenient device for determining R.P.M. of shafts. Graduated dial on both sides of Indicator enable readings to be taken of shafts turning either direction. Dial registers up to 5,000 by means of rotating disc in center. Gauge may be instantly set at zero by means of small knurled wheel.

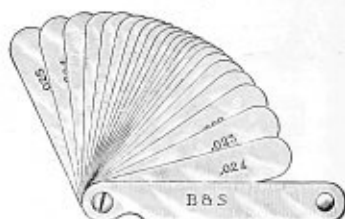
No. 748 Brown & Sharpe Speed Indicator.

List Price, Each.....\$7.45

Morocco Case, 50c extra.

THICKNESS GAUGE

Brown & Sharpe No. 640



Consists of 22 steel blades varying in thickness from .004 to .025 of an inch by thousandths. Speed may be used singularly or in combination as desired. Plainly marked, easily readable figures show thickness of each blade.

No. 640 Brown & Sharpe Thickness Gauge.

List Price, Each.....\$2.75

CENTER GAUGE

Brown & Sharpe No. 650



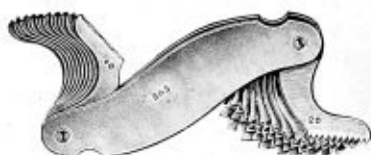
For grinding and setting screw-cutting tools with table for determining the size of tap drills for 60° "V" thread. Angles as shown are useful for measuring number of threads to the inch. Table on gauge is very convenient for figuring depths of thread, etc.

No. 650 Brown & Sharpe Center Gauge.

List Price, Each.....\$.55

SCREW PITCH GAUGES

Brown & Sharpe No. 630



For threads on nuts and screws, also including pipe thread. Plates show the following threads per inch: 9, 10, 11, 11½, 12, 13, 14, 15, 16, 18, 20 on one end, and 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40 on other end.

No. 630 Brown & Sharpe Screw Pitch Gauge.

List Price, Each.....\$1.38

BROWN & SHARPE No. 631

Similar to No. 630, but contains 24 pitches.

List Price, Each.....\$1.65

BROWN & SHARPE No. 632

Similar to No. 630, but contains 30 pitches.

List Price, Each.....\$1.95

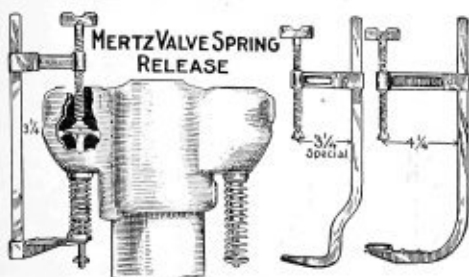
BROWN & SHARPE No. 638

Contains 7 pitches S. A. E. (A. L. A. M. Standard Thread) fitting the following: 12, 14, 16, 18, 20, 24 and 28 threads per inch, also includes a blade with gauge for grinding thread tools.

No. 638 Brown & Sharpe Screw Pitch Gauge.

List Price, Each.....\$1.65

MERTZ VALVE LIFTER



A simple type of valve spring release that is an adaptation to the well known "C" Clamp. The fork straddles the lower end of valve stem and the sliding arm is dropped to a swivel button on end of thumb screw centers on valve head. Sliding arm automatically locks on vertical bar, leaving both ends free to turn the thumb screw for removal or insertion of key or pin in bottom of valve stem. Made in four sizes.

No. 7 for use on all small motors including Continental. Has clearance of $7\frac{1}{2}$ ".

List Price, Each.....\$4.00

No. 3 is for use on "T" Head Overhead valve motors and has a clearance of $3\frac{1}{4}$ ".

List Price, Each.....\$4.00

No. 4 is intended for "V" Type motors, Fords and other small motors. Has a clearance of $4\frac{1}{2}$ ".

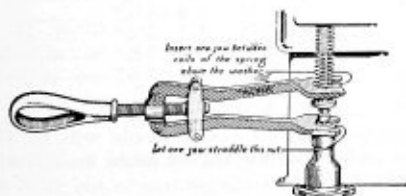
List Price, Each.....\$4.00

No. 9 is for use on large truck, passenger car, and tractor motors with a large manifold. Has a clearance of 9".

List Price, Each.....\$5.00

VLCHECK VALVE LIFTER

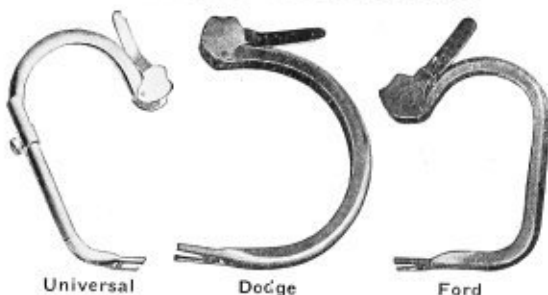
Drop Forged



Operated by means of a sliding bar that increases the leverage, as the valve spring is compressed and allows quick action with no effort. Operated by simply turning hand screw.

Vlcheck Valve Lifter. List Price, Each.....\$1.75

BEARDSLEY VALVE LIFTERS



Universal

Dodge

Ford

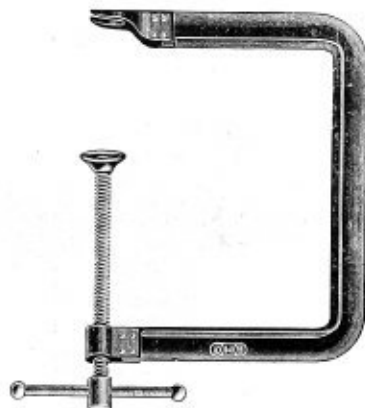
Simple, practical, unbreakable, with no threads to strip or chains to break. Consists of a "C" shape clamp with simple self-locking lever. Easily compresses any valve spring. A specially shaped foot is provided on lifter which holds spring rigidly in position. Made in three styles.

Universal—Fits all Valves in all types of motors. List Price, Each.....\$2.50

Dodge Type—Fits Dodge Motors. List Price, Ea. 1.75

Ford Type—Fits Ford Motors. List Price, Each 1.25

B-M VALVE SPRING LIFTER



A simple "C" Clamp type Valve Spring Lifter, made from "T" section steel, insuring a maximum of strength and rigidity. Made with swivel cupped washer base jaw. Made in two sizes.

No.	Maximum Clearance Screw to Jaw	Depth of Front	List Price
5	$8\frac{1}{2}$ "	$6\frac{1}{2}$ "	\$2.00
6	$9\frac{1}{2}$ "	$6\frac{1}{2}$ "	2.25

VALVE SPRING RELEASE

No. 201



Fits all types of motors excepting some few 8 and 12 cylinder types. Equipped with spring ratchet to hold spring compressed. Made of pressed steel, black enameled.

No. 201 Valve Spring Release. List Price, Each.....\$.80

CHAIN VALVE LIFTER

Fits every type excepting some few 8 and 12 cylinder motors. Lever has a narrow fork at one end and a wide fork at other enabling it to handle valves with split washers or pins holding the spring on the same. Made of steel, rust-proof finish.

Chain Valve Lifter,
List Price, Each.....\$.85



BUFFUM VALVE REMOVER

For Buick Cars

The only practical and efficient tool for removing Buick valves. Operated by a simple screw and jaw puller device without danger of injury to delicate parts.

Buffum Buick Valve Remover,
List Price, Each.....\$2.00



TU-FORD VALVE SPRING LIFTER

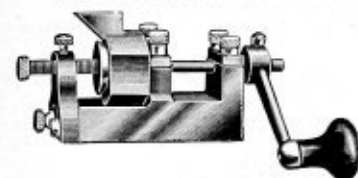
Mossberg No. 653

The most ingenious and easy-acting Ford Valve Spring Lifter yet devised. Very small in size—may be carried in the pocket. Consists of a simple clamp device with thumb operated leverage. Not necessary to remove spring, as lifter may be left inserted under valve while grinding.

No. 653 Tu-Ford Valve Lifter. List Price.....\$1.00



SIOUX VALVE REFACING TOOL



The construction and operation of this device is very simple. The cutter is made of the best kind of Tungsten Steel, hardened and tempered to

stand hard service. It locks into your vise and is ready for use in an instant. One cutter only is furnished as regular equipment.

No. 304—Sioux Valve Refacing Tool, with 45 Degree Cutter. List Price.....\$7.25

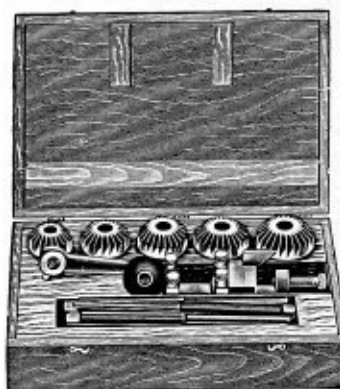
No. 301—30 Degree Cutter only. List Price..... 1.25

No. 302—40 Degree Cutter only. List Price..... 1.25

No. 303—60 Degree Cutter only. List Price..... 1.25

SIOUX VALVE TOOL

Set No. 300

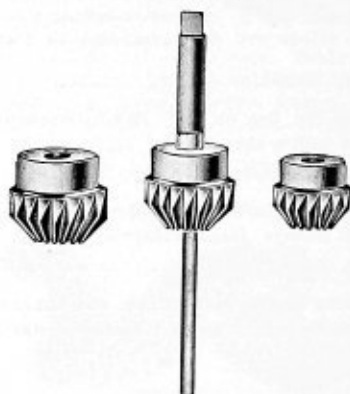


The Sioux Valve Tool Set illustrated here is complete enough to take care of practically all the jobs that an average garage or auto repair shop is likely to get.

Sioux Valve Seat Reamers reface valve seats with the same dispatch accuracy, smoothness and general satisfaction that the Sioux Valve Refacing Tool refaces the valves. The Standard Set is made in 45 deg. angle only.

No. 300. List Price, Complete.....\$28.50

SIOUX VALVE RE-SEATING REAMER SEATER HEADS



Valve Seat Reamers

No.	List Price	No.	List Price
100—1½"	\$3.50	111—2½"	\$5.25
101—1¾"	3.50	112—3"	5.75
102—1¾"	3.50	113—3¼"	6.00
103—1¾"	3.50	114—3½"	6.25
104—2"	3.50	115—3¾"	6.75
105—2½"	3.75	116—3½"	7.00
106—2¼"	3.75	117—3¾"	7.50
107—2½"	3.85	118—3¾"	7.75
108—2½"	4.25	119—3¾"	8.10
109—2¾"	4.50	150—4"	8.50
110—2¾"	5.00		

Unless specified, all seater heads will be 45 degrees; 30 and 60-degree angles made special at the above price.

PILOT STEMS

No.	List Price	No.	List Price
120—1½"	\$1.25	125—¾"	\$1.25
121—¾"	1.25	126—¾"	2.00
122—13/32"	1.25	127—1½"	2.00
123—1½"	1.25	128—¾"	2.00
124—1½"	1.25	129—1½"	2.00

SAVIDGE UNIVERSAL TYPE VALVE LATHE

For Any Valves, Steel or Iron Heads



Capacity—Valves with 45 or 30 degree heads up to 2½" diameter and ⅞" stems.

A simple, rugged, accurate efficient and quick lathe with that real lathe action so necessary for valves with steel heads.

Quicker and more accurate than a machine lathe because self-centering and

its angles accurately fixed—no guess work.

Assures a perfect concentric fit and saves valve grinding.

To operate—turn the valve with the crank while operating the feed screw with the left hand.

List Price, Complete with High Speed Steel Cutter, ready to use.....\$12.00

List Price, Extra Cutter..... 1.20

SAVIDGE JUNIOR TYPE VALVE LATHE

For "Ford" valves and other valves with 45 degree cast iron heads up to 1½" and ⅞" stems.

Light compact and cuts quickly and easily.

It is easily clamped in vise or held in one hand when operated.

It does not require a machinist to operate and it takes labor out of seating valves.

Ideal equipment for Ford repair shops. Does the work quicker and easier than any other method.

List Price, Complete with High Speed Cutter, ready to use.....\$3.75

List Price, Extra Cutter..... 1.00



SAVIDGE SAFETY REAMER SET



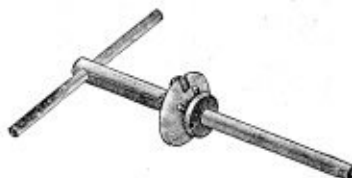
Savidge Reamers are constructed on the plane principally. The reamer block is equipped with a high speed steel cutter which does perfect work indefinitely, but is removable and may be resharpened on an oil stone and readjusted with the cutter adjusting screw.

Reamer blocks are hardened and accurately ground, cutters are set at proper position and the tool tested before leaving the factory. Guide stems are interchangeable and shoulder on the ground surface of the reamer block to insure accuracy.

The above set includes handle stem with T bar, ⅞", ⅝" and ⅜" guide stems; 1½", 1⅜", 2, 2½" and 2¾" reamer blocks with high speed cutters ready to use. It will handle practically all jobs coming into the average repair shop.

List Price, including attractive wooden box.....\$20.00

SAVIDGE JUNIOR SAFETY REAMER



Takes the labor out of Ford and Fordson valve work, constructed of same grade of material and workmanship as our Safety Reamer set.

List Price, in carton.....\$2.25

List Price, extra Cutter..... .60

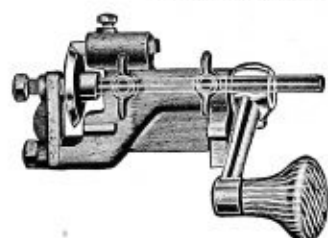
SAVIDGE SAFETY REAMER BLOCKS, GUIDE STEMS AND CUTTERS MAY BE PURCHASED SEPARATELY AS LISTED BELOW.



LIST PRICES

Reamer Blocks with High Speed Cutters ready to use.		Guide Stems	
1½"	\$3.00	⅞"	\$1.00
1⅜"	3.00	⅝"	1.00
1¾"	3.00	13/32"	1.00
1⅞"	3.00	⅞"	1.00
2"	3.00	1½"	1.00
2½"	3.25	Handle with T Bar	1.00
2¾"	3.25	Extra High Speed	
2⅞"	3.50	Cutters, each.....	.60

SIoux FORD AND FORDSON VALVE REFACING TOOL



The Sioux Ford and Fordson Valve Refacing Tools are low in price and accurately made. They will face Ford and Fordson Valves accurately and smooth. The cutters are made of high Tungsten steel, the same as used for lathe tools.

No. 202 Ford. List Price, Each.....\$1.75
No. 204 Fordson. List Price, Each.....2.00

SIoux FORD AND FORDSON VALVE Seat Reamer

The Ford and Fordson Valve Seat Reamers are tools of the same grade, material and workmanship as our standard line of reamers. They reface valve seats with the same accuracy and perfection.



No. 200—"T" Handle Type

No. 200 Ford. List Price, Each.....\$1.75
No. 203. Fordson. List Price, Each.....2.00

LITTLE SIoux VALVE TOOL SET For Ford Cars



A complete outfit for reseating, refacing and grinding Ford valves. Outfit includes Little Sioux Valve Grinder, Sioux Valve Seat Reamer, Sioux Ford Valve Refacing Tool, with liberal quantity of fine and coarse valve grinding paste. Included with outfit is a book of directions, enabling the Ford owner to grind, etc., his own valves. Capitalize on the Ford owners' desire to "tinker" with his car and sell him this complete low-priced outfit.

No. 402 Little Sioux Valve Tool Set. List Price, \$7.25

STEVENS' VALVE RE-FACER For Fords.



Just a few turns of the valve and the job is done. The bevel edge of the valve is held against the cutting blade by a spring-retained screw, as illustrated. The cutting blade has an edge on the opposite side and can be renewed. The tool is furnished complete as shown.

List Price\$1.00

STEVENS' VALVE RE-SEATER

For Fords.



This Valve Re-Seater is an accurate, well made reamer and the extra long stem insures the absolute accuracy of the operation. It is guaranteed to ream a true, smooth seat and do the work in quicker time.

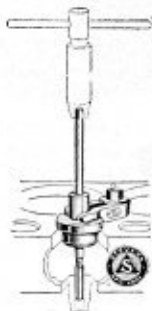
List Price\$1.25

No. 2Shop Size Re-Seater Extra large; reamer of best tool steel.

List Price\$2.00

STEVENS' OVERSIZE VALVE STEM REAMER AND JIG

For Fords.



You know the disastrous effect of leaking manifolds. But do you know that worn valve stem guides cause the same trouble? The only way to overcome this difficulty is to fit a set of Stevens Oversize Valves, using a Stevens Valve Stem Reamer and a Guide to insure a true, accurate and time-saving job. Reamer, 1/64 in. oversize.

List Price\$2.00

Reamer Jig. List Price.....1.65

STEVENS' PILOT REAMER FOR OVER- SIZE PUSH ROD

No. 3058 X-P.

For Fords



For fitting motor with 1/64 in. Oversize Push Rods. The long pilot extends into valve-guide, as shown, and helps the reamer to work steadily and accurately.

List Price\$4.40

STEVENS' OVERSIZE PUSH ROD REAMER AND JIG

No. 3058X.

For Fords

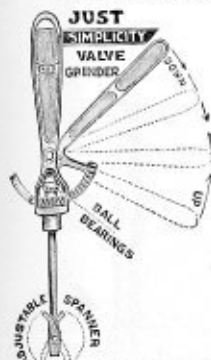


When Push Rod guides become worn to one side their alignment must be restored and oversize rods fitted. This reamer will align the guide for a 1/64" oversize Push Rod. The Jig prevents reamer from wobbling and insures accuracy.

Reamer only. List Price.....\$3.00

Jig Complete, without Reamer.

List Price1.25

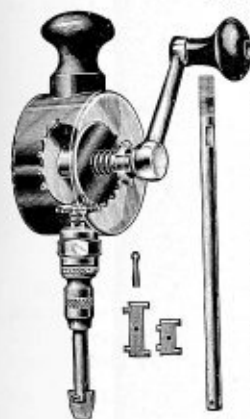
SIMPLICITY VALVE GRINDER

Oscillating Grinder with a Range of from $\frac{1}{8}$ to $1\frac{3}{8}$ Turns. Save much time and labor by 'Roughing-In' with the full stroke of the handle, then finish up with $\frac{1}{8}$, $\frac{1}{4}$, or $\frac{1}{2}$ stroke. The only speed grinder with which you can "feel your work." Always equipped for all valves. No plates to change, misplace, or lose. Leave spanner loose for grinding the No. 4 cylinder of Ford cars. Simple, sturdy, flexible, sensitive. Will last a life time.

List Price, Each.....\$2.50

SIOUX VALVE GRINDER

No. 400



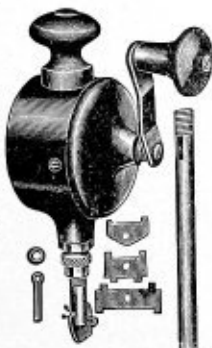
Always a favorite with the mechanic. Simple, efficient, easily operated. Equipped with ball-betrings for easy working and made of carefully selected material. By turning handle continuously in one direction the valve rotates back and forth on its seat producing a reciprocating motion which is necessary for perfectly ground valves. Equipped with extension and three bits which are instantly interchangeable.

No. 400, List Price, Each.....\$7.00

LITTLE SIOUX VALVE GRINDER

No. 401

For Ford, Chevrolet, Maxwell, and other small valves. Smaller in size than the No. 400 Sioux Valve Grinder but made with the same care and accuracy. Equipped with five interchangeable bits and extension.



No. 401, List Price, Complete.....\$3.50

B-M VALVE GRINDER

Consists of a forged blade with long fluted handle. Equipped with separate attachment for valves having grip and holes instead of slot. Adjustable for holes from $\frac{1}{2}$ " to $1\frac{1}{2}$ " apart.

B-M Valve Grinder. List Price.....\$2.25

MOSSBERG UNIVERSAL VALVE GRINDER

No. 610 Adjustable



Will handle all valve grinding jobs whether valves are slotted or drilled with two holes. Bit is adjustable, as shown in illustration. Length over all 21". The entire tool is made of steel.

No. 610 Mossberg Valve Grinder.

List Price, Each.....\$1.00

WALDEN "LONG" VALVE GRINDER

No. VG2—For Fords



Long Shank Brace Grinder. Some garage men prefer the brace grinder in place of short grinder VG3. Fork end flexible and will reach all valves including one under the dashboard.

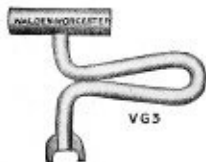
No. VG2 Walden Long Valve Grinder.

List Price, Each.....\$.88

WALDEN "SHORT" VALVE GRINDER

No. VG3—For Fords

Short Valve Grinder Wrench—all steel. The original wire handle valve grinder re-designed with $\frac{5}{8}$ " bar handle which swivels on cone bearing. The fork end fits the head perfectly.



No. VG3 Walden Valve Grinder.

List Price, Each.....\$.55

No. 607 MOSSBERG VALVE GRINDER

For Fords



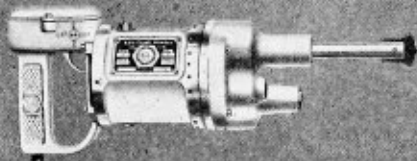
Made of steel, with flexibly fastened rocker points and folding handle. Length, $4\frac{1}{2}$ " over all.

No. 607 Mossberg Valve Grinder.

List Price, Each.....\$.52

BLACK & DECKER ELECTRIC VALVE GRINDER

"With the Pistol Grip and Trigger Switch"



In all mechanical essentials, this new Black & Decker Valve Grinder is the same as its famous predecessor, the Black and Decker Portable Electric Drill.

The Valve Grinder is equipped with an oscillating spindle while the drill has a more swiftly driven, rotary spindle.

The oscillating action of the spindle is free and steady. It is the same movement that skilled mechanics use when grinding by hand, only much faster.

The entire housing is of aluminum alloy.

It is free of all vibration—as sweet running as a top.

It is perfectly balanced. It can be operated for hours without fatigue.

The motor used is exceptionally powerful for the work it must do.

It will operate from an ordinary electric-light socket, and will use either Alternating Current of 25 to 60 Cycles or Direct Current at will.

Cooling is by means of the patented Black & Decker Forced Draft Cooling system.

The motor cannot possibly heat up in service. An efficient cooling system is of vital importance to any portable electric driven tool, especially where long life and hard service is desired.

The control is by means of the patented

"PISTOL GRIP AND TRIGGER SWITCH."

It is the quickest, handiest, surest control obtainable.

The current can be switched on or off without removing either hand.

It saves time and labor. It insures better workmanship with less effort.

There are Ball Bearings on each end of the armature shaft. This insures long life and a free running motor.

There is a Ball Thrust bearing on the spindle. The gears are cut from high carbon steel and are mounted on shafts ground to size with double end bearings, running in Phosphor Bronze Bushings. (No Gears in this Grinder run on studs.)

Grinder is complete with 15 feet of duplex electric cable, separable attachment plug and detachable screw driver and spanner type bits.

Blank bits which can be filed to fit special valves, 30 cents $\frac{1}{2}$ doz.

Packed in box 6"x8 $\frac{1}{2}$ "x18"

Shipping weight, 17 lbs.

Net weight, 8 lbs.

Price **\$61.60** for 110 volts.

\$66.00 for 220 or 32 volts.



MILLERS FALLS BREAST DRILLS

No. 97



Two-speed drill with onward ratchet motion, both right and left, and may also be locked, giving ordinary drive. Three-jaw Star chuck, holding round shanks from 0 to $\frac{1}{2}$ ". Ball-bearing thrust. Auxiliary breast plate. Length, 17 $\frac{1}{2}$ ". Weight each, 8 lbs.

No. 97. List Price.....\$14.00

No. 100



Same as No. 200, except it does not have ratchet action nor the straightening crank handle. This drill has the ball-bearing thrust and Star chuck the same as No. 200. Length, 18". Weight each, 7 lbs.

No. 100. List Price.....\$7.65

No. 19



Simple and economical drill. Two speeds. Steel pinion. Ball-bearing thrust. Adjustable breast plate and extensible crank. Barber chuck for bit-stock shanks only. Length, 18". Weight each, 6 lbs.

No. 19. List Price.....\$5.50

No. 2100



A simply constructed drill. Two-speed. Steel pinion. Adjustable breast plate. Three-jaw Star chuck capacity round shanks up to $\frac{1}{2}$ ". No nickel. Weight each, 5 $\frac{1}{2}$ lbs. Length, 17 $\frac{1}{2}$ ".

No. 2100. List Price.....\$7.00

No. 200



Two-speed ratchet drill. Speed changed by means of knurled ring. Three-jaw Star chuck as on No. 97. Ball-bearing thrust. Auxiliary breast plate. Length, 18". Weight each, 7 lbs.

No. 200. List Price.....\$11.75

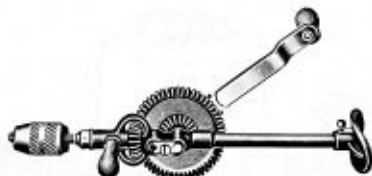
No. 12



Serviceable drill, having Master chuck, holding round shanks from $\frac{1}{8}$ " to $\frac{1}{2}$ " in diameter, bit stock shanks and No. 1 Morse taper shanks. Changeable speed, ball-bearings. Extensible crank. Steel pinion. Length, 17 $\frac{1}{2}$ ". Weight each, 6 lbs.

No. 12. List Price.....\$7.50

No. 29



The same as No. 19, except that it has three-jaw Star chuck with protected springs for round shanks up to $\frac{1}{2}$ " only. Length, 18 $\frac{1}{2}$ ". Weight each, 6 $\frac{1}{2}$ lbs.

No. 29. List Price.....\$6.70

No. 100

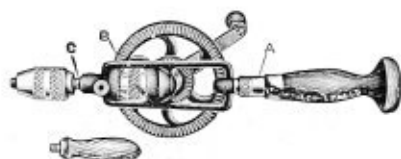


Very similar to No. 200 Breast Drill, except that it has no ratchet and is equipped with stationary crank handle. Equipped with speed change, adjustable breast plate and auxiliary breast plate. Ball-bearing thrust. Three-jaw Star chuck for round shanks only up to $\frac{1}{2}$ ". Length, 18". Weight each,

No. 100. List Price.....\$7.60

MILLERS FALLS HAND DRILLS

No. 980



Two-speed drill with ball-bearings. Three-jaw Star chuck with capacity up to $\frac{3}{8}$ " round shanks. Has idler pinion and stained hardwood handles. Length, $15\frac{3}{4}$ ". Weight each, 3 lbs.

No. 980. List Price.....\$6.20

No. 5



Hollow end handle with screw cap and holding 8 boring tools. Ball-bearing thrust. Three-jaw Chuck with capacity up to $\frac{3}{8}$ ". Large gear has wide rim to grasp when doing fine work. Length, $12\frac{1}{2}$ ". Weight each, $1\frac{1}{4}$ lbs.

No. 5. List Price.....\$4.30

PUSH DRILL

Millers Falls No. 800.



Operates automatically by pressure on handle which cause Drill to revolve. Especially useful in drilling small holes for wood screws. Eight drill points from $\frac{1}{8}$ " to $11/64$ " are carried inside handle. Drill points are notched fluted type for wood boring only. Knurled handle, nickel plated over all. Length $10\frac{1}{2}$ ".

No. 800 Push Drill. List Price, Each.....\$3.00

RATCHET BIT BRACES

Pexto No. 8210.



The finest ratchet brace made. Equipped with alligator jaw chuck with ball ratchet. Chuck grips any type of drill shank. Sweep 6"; weight $3\frac{3}{4}$ lbs.

List Price, each.....\$9.00

HACK SAW FRAME

Millers Falls No. 78



A low-priced, yet strong and durable hack saw frame. Frame is polished nickel plated steel, adjustable for blades from 8" to 12". Blades are tightened by thumb nut and may be faced in four directions. No. 78 Hack Saw Frame without Blade.

List Price\$1.35

HACK SAW FRAME

Millers Falls No. 9

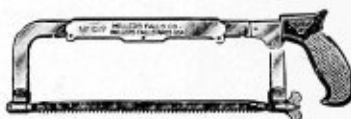


Always a big seller. A light, strong frame, adjustable 8" to 12". Polished nickel plated steel with hardwood handle. Blades are tightened by turning handle and may be faced in four directions. No. 9 Hack Saw Frame with One 10" Blade.

List Price\$2.40

HACK SAW FRAME

Millers Falls No. 1019



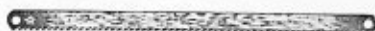
Made with Pistol Grip, giving a more rigid and comfortable grip than straight handle Hack Saw Frames and preventing wobbling of frame and consequent breakage of saw blades. Frame polished nickel plated steel, extensible 8" to 12". Blade may be faced in four directions. Handle black composition material.

No. 1019 Hack Saw Frame with 1 Blade.

List Price\$3.50

STAR HACK SAW BLADES

For Hand Use



Conceded by all good mechanics as one of the best hack saw blades made. Blades made from highest quality, flexible, tungsten steel, with 14 teeth to the inch. Packed 12 in bundle or $\frac{1}{2}$ gross in box.

Size	List Price Per Dozen
8" x $\frac{1}{8}$ " x .025" or (24 gauge).....	\$.90
9" x $\frac{1}{8}$ " x .025" or (24 gauge).....	1.00
10" x $\frac{1}{8}$ " x .025" or (24 gauge).....	1.10
11" x $\frac{1}{8}$ " x .025" or (24 gauge).....	1.15
12" x $\frac{1}{8}$ " x .025" or (23 gauge).....	1.35

STRAIGHT SHANK DRILLS

Wire Gauge Numbers



Carbon Steel No. 108A. High Speed Steel No. 418.

Number by Gauge.	Price Per Dozen.		Approximate Length, Inches.	Twist Cut, Inches.	Decimals of 1 Inch.
	Carbon Steel.	High Speed Steel.			
1	\$2.75	\$7.00	4	2 1/2	.2260
2	2.75	7.00	3 1/2	2 1/2	.2210
3	2.75	7.00	3 1/2	2 1/2	.2130
4	2.75	7.00	3 1/2	2 1/2	.2090
5	2.75	7.00	3 1/2	2 1/2	.2055
6	2.50	7.00	3 1/2	2 1/2	.2040
7	2.50	7.00	3 1/2	2 1/2	.2010
8	2.50	7.00	3 1/2	2 1/2	.1990
9	2.50	7.00	3 1/2	2 1/2	.1960
10	2.50	7.00	3 1/2	2 1/2	.1935
11	2.25	6.30	3 1/2	2 1/2	.1910
12	2.25	6.30	3 1/2	2 1/2	.1890
13	2.25	6.30	3 1/2	2 1/2	.1850
14	2.25	6.30	3 1/2	2 1/2	.1820
15	2.25	6.30	3 1/2	2 1/2	.1800
16	2.00	6.30	3 1/2	2 1/2	.1770
17	2.00	6.30	3 1/2	2 1/2	.1730
18	2.00	6.30	3 1/2	2 1/2	.1695
19	2.00	6.30	3 1/2	2 1/2	.1660
20	2.00	6.30	3 1/2	2 1/2	.1610
21	1.90	6.10	3 1/2	2 1/2	.1590
22	1.90	6.10	3 1/2	2 1/2	.1570
23	1.90	6.10	3 1/2	2 1/2	.1540
24	1.90	6.10	3 1/2	2 1/2	.1520
25	1.90	6.10	3 1/2	2 1/2	.1495
26	1.80	6.10	2 1/2	1 1/2	.1470
27	1.80	6.10	2 1/2	1 1/2	.1440
28	1.80	6.10	2 1/2	1 1/2	.1405
29	1.80	6.10	2 1/2	1 1/2	.1360
30	1.80	6.10	2 1/2	1 1/2	.1285
31	1.75	5.90	2 1/2	1 1/2	.1200
32	1.75	5.90	2 1/2	1 1/2	.1160
33	1.75	5.90	2 1/2	1 1/2	.1130
34	1.75	5.90	2 1/2	1 1/2	.1110
35	1.75	5.90	2 1/2	1 1/2	.1100
36	1.75	5.90	2 1/2	1 1/2	.1065
37	1.75	5.90	2 1/2	1 1/2	.1040
38	1.75	5.90	2 1/2	1 1/2	.1015
39	1.75	5.90	2 1/2	1 1/2	.0995
40	1.75	5.90	2 1/2	1 1/2	.0980
41	\$1.70	5.70	2 1/2	1 1/2	.096
42	1.70	5.70	2 1/2	1 1/2	.0935
43	1.70	5.70	2 1/2	1 1/2	.089
44	1.70	5.70	2 1/2	1 1/2	.086
45	1.70	5.70	2 1/2	1 1/2	.082
46	1.65	5.70	2 1/2	1 1/2	.081
47	1.65	5.70	2 1/2	1 1/2	.0785
48	1.65	5.70	2 1/2	1 1/2	.076
49	1.65	5.70	2 1/2	1 1/2	.073
50	1.65	5.70	1 1/2	1 1/2	.07
51	1.60	5.70	1 1/2	1 1/2	.067
52	1.60	5.70	1 1/2	1 1/2	.0635
53	1.60		1 1/2	1 1/2	.0595
54	1.60		1 1/2	1 1/2	.055
55	1.60		1 1/2	1 1/2	.052
56	1.55		1 1/2	1 1/2	.0465
57	1.55		1 1/2	1 1/2	.043
58	1.55		1 1/2	1 1/2	.042
59	1.55		1 1/2	1 1/2	.041
60	1.55		1 1/2	1 1/2	.04

In ordering, specify whether Carbon Steel or High Speed Steel is wanted.

STRAIGHT SHANK DRILLS

Long Set



Carbon Steel No. 110. High Speed Steel No. 415.

Diameter, Inches.	Price Per Drill.		Whole Length, Inches.	Twist Cut, Inches.	Decimal Equivalent.
	Carbon Steel.	High Speed Steel.			
1/16	\$0.45	\$0.90	4 1/2	1 1/4	.0625
1/8	.45	.90	4 1/2	1 1/4	.0781
3/16	.45	.90	4 1/2	1 1/4	.0937
1/4	.45	.90	4 1/2	1 1/4	.1093
5/16	.45	.90	5 1/2	2 1/4	.125
3/8	.45	.90	5 1/2	2 1/4	.1406
7/16	.50	.90	5 1/2	2 1/4	.1562
1/2	.50	.90	5 1/2	2 1/4	.1718
9/16	.55	1.00	5 1/2	2 1/4	.1875
5/8	.55	1.00	6 1/2	2 1/2	.2031
3/4	.60	1.10	6 1/2	2 1/2	.2187
7/8	.60	1.10	6 1/2	2 1/2	.2343
1	.65	1.20	6 1/2	2 1/2	.25
1 1/8	.65	1.20	6 1/2	2 1/2	.2656
1 1/4	.70	1.30	6 1/2	2 1/2	.2812
1 1/2	.70	1.30	6 1/2	2 1/2	.2968
1 3/4	.75	1.40	6 1/2	2 1/2	.3125
2	.75	1.40	6 1/2	2 1/2	.3281
2 1/8	.80	1.50	6 1/2	2 1/2	.3437
2 1/4	.80	1.50	6 1/2	2 1/2	.3593
2 1/2	.90	1.65	7	3 1/4	.375
2 3/4	.90	1.65	7	3 1/4	.3906
3	1.00	1.75	7 1/4	3 1/4	.4062
3 1/8	1.00	1.75	7 1/4	3 1/4	.4218
3 1/4	1.10	1.90	7 1/4	3 1/4	.4375
3 1/2	1.10	1.90	7 1/4	3 1/4	.4531
3 3/4	1.20	2.00	7 1/4	3 1/4	.4687
4	1.20	2.00	7 1/4	3 1/4	.4843
4 1/8	1.30	2.15	8	4 1/8	.5
4 1/4	1.30	2.15	8	4 1/8	.5156
4 1/2	1.40	2.25	8 1/4	4 1/8	.5312
4 3/4	1.40	2.25	8 1/4	4 1/8	.5468
5	1.40	2.25	8 1/4	4 1/8	.5625
5 1/8	1.50	2.40	8 1/2	4 1/8	.5781
5 1/4	1.50	2.40	8 1/2	4 1/8	.5937
5 1/2	\$1.60	\$2.50	8 1/2	4 1/8	.6093
5 3/4	1.60	2.50	8 1/2	4 1/8	.625
6	1.70	2.75	9	5 1/8	.6406
6 1/8	1.70	2.75	9	5 1/8	.6562
6 1/4	1.80	3.00	9 1/4	5 1/8	.6718
6 1/2	1.80	3.00	9 1/4	5 1/8	.6875
6 3/4	1.90	3.25	9 1/4	5 1/8	.7031
7	1.90	3.25	9 1/4	5 1/8	.7187
7 1/8	2.00	3.50	9 3/4	5 1/8	.7343
7 1/4	2.00	3.50	9 3/4	5 1/8	.75
7 1/2	2.10	3.75	9 3/4	5 1/8	.7656
7 3/4	2.10	3.75	9 3/4	5 1/8	.7812
8	2.20	4.00	10	6 1/8	.7968
8 1/8	2.20	4.00	10	6 1/8	.8125
8 1/4	2.40	4.40	10 1/4	6 1/8	.8281
8 1/2	2.40	4.40	10 1/4	6 1/8	.8437
8 3/4	2.60	4.75	10 1/4	6 1/8	.8593
9	2.60	4.75	10 1/4	6 1/8	.875
9 1/8	2.80	5.15	10 3/4	6 1/8	.8906
9 1/4	2.80	5.15	10 3/4	6 1/8	.9062
9 1/2	3.00	5.50	10 3/4	6 1/8	.9218
9 3/4	3.00	5.50	10 3/4	6 1/8	.9375
10	3.25	5.90	10 3/4	6 1/8	.9531
10 1/8	3.25	5.90	10 3/4	6 1/8	.9687
10 1/4	3.50	6.25	11	6 1/8	.9843
10 1/2	3.50	6.25	11	6 1/8	L

In ordering, specify whether Carbon Steel or High Speed Steel is wanted.

TAPER SHANK DRILLS



Carbon Steel No. 106.

High Speed Steel No. 403.

Diameter, Inches.	Price Per Drill.		Whole Length, Inches.	Twist Cut, Inches.	Morse Taper Shank.	Decimal Equivalent.
	Carbon Steel.	High Speed Steel.				
1/16	\$0.45	\$0.90	4 1/8	1 1/4		.0625
1/8	.45	.90	4 1/8	1 3/8		.0781
3/16	.45	.90	4 1/8	1 1/2		.0937
1/4	.45	.90	4 1/8	1 5/8		.1093
5/16	.45	.90	5 1/8	2 1/8		.125
3/8	.45	.90	5 1/8	2 3/8		.1406
7/16	.45	.90	5 1/8	2 1/2		.1562
1/2	.50	.90	5 1/8	2 5/8		.1718
9/16	.50	.90	5 1/8	2 3/4		.1875
5/8	.55	1.00	5 1/8	2 7/8		.2031
11/16	.55	1.00	6 1/8	2 11/8		.2187
3/4	.60	1.10	6 1/8	2 13/8		.2343
7/8	.60	1.10	6 1/8	2 15/8		.25
1 1/8	.65	1.20	6 1/8	2 17/8		.2656
1 1/4	.65	1.20	6 1/8	2 19/8		.2812
1 1/2	.70	1.30	6 1/8	3		.2968
1 3/4	.70	1.30	6 1/8	3 1/8	No. 1	.3125
1 7/8	.75	1.40	6 1/8	3 1/4		.3281
2	.75	1.40	6 1/8	3 1/2		.3437
2 1/8	.80	1.50	6 1/8	3 3/4		.3593
2 1/4	.80	1.50	6 1/8	3 5/8		.375
2 3/8	.90	1.65	7	3 3/4		.3906
2 1/2	.90	1.65	7	3 7/8		.4062
2 5/8	1.00	1.75	7 1/4	3 5/8		.4218
2 3/4	1.00	1.75	7 1/4	3 5/4		.4375
2 7/8	1.10	1.90	7 1/4	4		.4531
3	1.10	1.90	7 1/4	4 1/8		.4687
3 1/8	1.20	2.00	7 1/4	4 1/4		.4843
3 1/4	1.20	2.00	7 1/4	4 1/2		.5
3 3/8	1.30	2.15	8	4 1/4		.5156
3 1/2	1.30	2.15	8	4 3/8		.5312
3 5/8	1.40	2.25	8 1/4	4 3/4		.5468
3 3/4	1.40	2.25	8 1/4	4 7/8		.5625
3 7/8	1.50	2.40	8 1/2	4 7/8	No. 2	.5781
4	1.50	2.40	8 1/2	4 3/4		.5937
4 1/8	\$1.60	\$2.50	8 3/4	4 7/8		.6093
4 1/4	1.60	2.50	8 3/4	4 7/8		.625
4 1/2	1.70	2.75	9	5 1/8		.6406
4 3/8	1.70	2.75	9	5 1/8		.6562
4 5/8	1.80	3.00	9 1/4	5 3/8		.6718
4 1/2	1.80	3.00	9 1/4	5 3/8		.6875
4 7/8	1.90	3.25	9 1/2	5 3/8		.7031
4 3/4	1.90	3.25	9 1/2	5 3/8		.7187
4 7/8	2.00	3.50	9 3/4	5 3/8		.7343
4 3/4	2.00	3.50	9 3/4	5 3/8	No. 2	.75
4 7/8	2.10	3.75	9 3/4	6		.7656
4 3/4	2.10	3.75	9 3/4	6		.7812
4 7/8	2.20	4.00	10	6 1/4		.7968
4 3/4	2.20	4.00	10	6 1/4		.8125
4 7/8	2.40	4.40	10 1/4	6 3/8		.8281
4 3/4	2.40	4.40	10 1/4	6 3/8		.8437
4 7/8	2.60	4.75	10 1/2	6 3/8		.8593
4 3/4	2.60	4.75	10 1/2	6 3/8		.875
4 7/8	2.80	5.15	10 3/4	6 3/4		.8906
4 3/4	2.80	5.15	10 3/4	6 3/4		.9062
4 7/8	3.00	5.50	10 3/4	6 3/4		.9218
4 3/4	3.00	5.50	10 3/4	6 3/4		.9375
4 7/8	3.25	5.90	10 3/4	6 3/4	No. 3	.9531
4 3/4	3.25	5.90	10 3/4	6 3/4		.9687
4 7/8	3.50	6.25	11	6 3/4		.9843
4 3/4	3.50	6.25	11	6 3/4		1.

STRAIGHT SHANK DRILLS

Jobbers or Short Set



Carbon Steel No. 108.

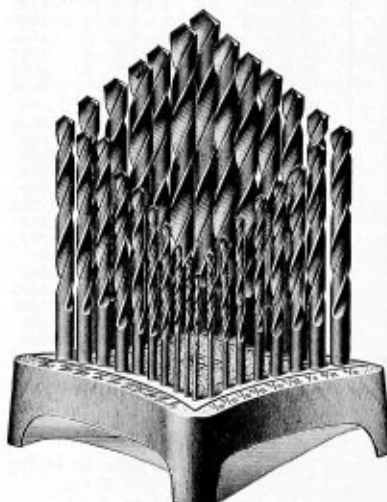
High Speed Steel, No. 417

Diameter, Inches.	Price Per Dozen.		Whole Length, Inches.	Twist Cut, Inches.	Decimal Equivalent.
	Carbon Steel.	High Speed Steel.			
1/16	\$1.50		1 1/8	3/8	.0312
1/8	1.55		1 1/8	3/8	.0468
3/16	1.60	\$5.70	2 1/8	1 1/4	.0625
1/4	1.65	5.70	2 1/8	1 3/8	.0781
5/16	1.70	5.70	2 3/8	1 1/2	.0937
3/8	1.75	5.90	2 3/8	1 1/2	.1093
7/16	1.80	5.90	3	1 1/2	.125
1/2	1.85	6.10	3 1/8	1 1/2	.1406
9/16	1.90	6.10	3 1/8	2 3/8	.1562
5/8	2.00	6.30	3 3/8	2 3/8	.1718
11/16	2.25	6.30	3 3/8	2 3/8	.1875
3/4	2.50	7.00	3 5/8	2 1/2	.2031
7/8	2.75	7.00	3 5/8	2 1/2	.2187
1	3.00	7.35	3 7/8	2 1/2	.2343
1 1/8	3.25	7.35	4	2 3/8	.25
1 1/4	3.50	9.10	4 1/8	2 3/8	.2656
1 1/2	3.80	9.10	4 1/4	2 3/8	.2812
1 3/4	4.00	10.50	4 3/8	3 1/8	.2968
1 7/8	4.35	10.50	4 3/8	3 1/8	.3125
2	4.70	12.00	4 3/8	3 1/8	.3281
2 1/8	5.05	12.00	4 3/8	3 1/8	.3437
2 1/4	5.50	13.50	4 3/8	3 1/8	.3593
2 3/8	6.00	13.50	5	3 3/8	.375
2 1/2	6.50	15.00	5 1/8	3 3/8	.3906
2 5/8	7.00	15.00	5 1/4	3 3/8	.4062
2 3/4	7.75	17.00	5 3/8	3 3/8	.4218
2 7/8	8.50	17.00	5 1/2	4 1/8	.4375
3	9.25	18.75	5 3/8	4 1/8	.4531
3 1/8	10.00	18.75	5 3/4	4 3/8	.4687
3 1/4	11.00	20.00	5 3/8	4 3/8	.4843
3 1/2	12.00	20.00	6	4 1/2	.5

STRAIGHT SHANK DRILL SET

Carbon Steel No. 50.

High Speed Steel No. 54.

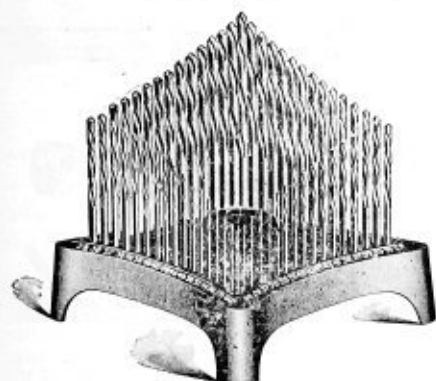


This set comprises all the sizes of Jobbers' or Short Set Straight Shank Drills from 1/16" to 1 1/2", inclusive, by 64ths. Each drill is in a hole plainly marked with its size.

As all the 32nd sizes are on one side and the 64ths on the opposite side, selection is made easy.

No. 50 Set with Stand. List Price.....\$15.00
No. 54 Set without Stand. List Price.....26.00
Stand only. List Price.....2.40

IN ORDERING, SPECIFY WHETHER CARBON STEEL OR HIGH SPEED STEEL IS WANTED.

STRAIGHT SHANK WIRE GAUGE
DRILL SET

Carbon Steel No. 80. High Speed Steel No. 84.

This set comprises all the sizes of straight shank drills steel wire gauge, from Nos. 1 to 60, inclusive. The size drill fitting each hole is plainly marked on the stand. As even numbers are placed on one side and odd on the other, selection is made easy.

No. 80 Set with Stand. List Price.....\$13.25

No. 84 Set without Stand. List Price..... 30.60

Stand only. List Price..... 2.40

BRAKE LINING COUNTERSINKS

(See Page 9)

For Attaching Brake Lining

BURRING OR COUNTERSINK REAMERS



Straight Fluted

These Burring Reamers are made of finest steel and designed especially for removing burrs, caused by cutting pipe. They are also extensively used for countersinking.

No.	Style of Shank	Cap. Pipe	List Price
1	Bit Brace	$\frac{1}{4}$ " to $1\frac{1}{4}$ "	\$1.50
2	Bit Brace	$\frac{1}{2}$ " to 2"	3.00

Every Tool Guaranteed Finest Quality

ALL PRICES SUBJECT TO
CHANGE WITHOUT NOTICE.

But All Prices the Lowest Commensurate
with Quality.

HAND REAMERS

Straight Flutes



Carbon Steel No. 128

High Speed Steel No. 624

Diameter, Inches.	Carbon Steel, Straight Flute	High Speed Steel, Straight Flute	Whole Length, Inches.	Length of Flutes, Inches.
$\frac{1}{8}$	\$1.00	\$3.00	3	$1\frac{1}{2}$
$\frac{1}{4}$	1.10	3.25	$3\frac{1}{4}$	$1\frac{3}{8}$
$\frac{3}{8}$	1.20	3.25	$3\frac{1}{2}$	$1\frac{3}{4}$
$\frac{1}{2}$	1.30	3.50	$3\frac{3}{4}$	$1\frac{7}{8}$
$\frac{5}{8}$	1.40	3.50	4	2
$\frac{3}{4}$	1.45	3.75	$4\frac{1}{4}$	$2\frac{1}{8}$
$\frac{7}{8}$	1.50	3.75	$4\frac{1}{2}$	$2\frac{1}{4}$
1	1.55	4.25	$4\frac{3}{4}$	$2\frac{3}{8}$
$1\frac{1}{8}$	1.60	4.25	5	$2\frac{1}{2}$
$1\frac{1}{4}$	1.70	4.75	$5\frac{1}{4}$	$2\frac{3}{8}$
$1\frac{1}{2}$	1.75	4.75	$5\frac{1}{2}$	$2\frac{3}{4}$
$1\frac{3}{4}$	1.85	5.25	$5\frac{3}{4}$	$2\frac{7}{8}$
$1\frac{7}{8}$	1.90	5.25	6	3
2	1.95	5.75	$6\frac{1}{4}$	$3\frac{1}{8}$
$2\frac{1}{8}$	2.00	5.75	$6\frac{1}{2}$	$3\frac{1}{4}$
$2\frac{1}{4}$	2.10	6.25	$6\frac{3}{4}$	$3\frac{3}{8}$
$2\frac{1}{2}$	2.20	6.25	7	$3\frac{1}{2}$
$2\frac{3}{4}$	2.30	6.75	$7\frac{3}{8}$	$3\frac{1}{2}$
$2\frac{7}{8}$	2.40	6.75	$7\frac{3}{4}$	$3\frac{3}{8}$
3	2.50	7.25	$8\frac{1}{8}$	$4\frac{1}{8}$
$3\frac{1}{8}$	2.60	7.25	$8\frac{3}{8}$	$4\frac{1}{4}$
$3\frac{1}{4}$	2.70	7.75	$8\frac{3}{4}$	$4\frac{3}{8}$
$3\frac{1}{2}$	2.80	7.75	$9\frac{1}{8}$	$4\frac{3}{4}$
$3\frac{3}{4}$	2.95	8.50	$9\frac{3}{8}$	$4\frac{7}{8}$
$3\frac{7}{8}$	3.10	8.50	$9\frac{3}{4}$	$4\frac{7}{8}$
4	3.25	9.50	10	5
$4\frac{1}{8}$	3.40	9.50	$10\frac{1}{4}$	$5\frac{1}{8}$
$4\frac{1}{4}$	3.55	10.50	$10\frac{3}{8}$	$5\frac{1}{4}$
$4\frac{1}{2}$	3.70	10.50	$10\frac{7}{8}$	$5\frac{1}{2}$

TAPER-PIN REAMERS

No. 137

Taper $\frac{1}{4}$ inch per foot

Size Number.	Price Each.	Diameter of Small End, Inches.	Whole Length, Inches.	Length of Flutes, Inches.
0	1.00	.127	$2\frac{3}{8}$	$1\frac{5}{8}$
1	1.00	.146	$2\frac{1}{2}$	$1\frac{3}{4}$
2	1.25	.162	3	2
3	1.50	.183	$3\frac{1}{2}$	$2\frac{1}{4}$
4	1.75	.208	4	$2\frac{1}{2}$
5	2.00	.240	$4\frac{1}{2}$	3
6	2.25	.279	$5\frac{3}{8}$	$3\frac{3}{8}$
7	2.50	.331	6	$4\frac{1}{2}$

Point of each Reamer will enter hole reamed by next smaller size.

Diameter of small end given measured $\frac{1}{4}$ inch from end.

EXPANSION REAMERS

No. 129



Carbon Steel

(Eccentric Flutes)

Diameter Inches	Price Each	Length of Flute Inches	Length Over All Inches	Diameter Inches	Price Each	Length of Flute Inches	Length Over All Inches
1/4	\$3.00	2	3 3/4	1 1/4	\$6.50	4 3/4	8 3/4
3/8	3.05	2 1/4	3 3/8	1 1/2	6.75	4 3/8	8 1/2
1/2	3.10	2 1/2	4	1 3/4	7.25	5 1/8	9
5/8	3.15	2 3/4	4 1/4	1 7/8	7.75	5 1/4	9 1/4
3/4	3.20	2 3/4	4 3/4	1 5/8	8.30	5 3/8	9 3/8
7/8	3.25	2 3/4	4 3/4	1 5/8	8.90	5 3/8	9 3/8
1	3.30	2 1/2	4 1/2	1 5/8	9.50	5 3/4	10 3/8
1 1/8	3.35	2 1/2	4 1/2	1 5/8	10.50	5 3/4	10 3/8
1 1/4	3.40	2 1/2	5	1 5/8	11.50	5 1/2	10 5/8
1 1/2	3.50	2 3/4	5 1/4	1 3/4	12.50	6	10 3/4
1 3/4	3.65	2 3/4	5 3/4	1 3/4	13.00	6 1/2	11 1/4
1 7/8	3.80	2 3/4	5 3/4	1 3/4	13.50	6 1/2	11 1/4
2	4.00	3 1/4	5 3/4	1 1/2	14.00	6 1/2	11 3/4
2 1/4	4.20	3 1/4	6	1 3/4	14.50	6 1/2	11 3/4
2 1/2	4.40	3 1/4	6 1/4	1 1/2	15.00	6 1/2	11 3/4
2 3/4	4.60	3 1/4	6 1/4	1 1/2	15.50	6 1/2	11 3/4
3	4.80	3 3/4	6 3/4	1 1/2	16.00	6 1/2	12
3 1/4	5.00	3 3/4	6 3/4	2	16.50	7	12 3/4
3 1/2	5.25	4	7 3/4	2 1/4	17.50	7 1/2	12 5/8
3 3/4	5.50	4 1/4	7 3/4	2 1/4	18.50	7 1/2	13
4	5.75	4 1/4	7 3/4	2 1/4	19.50	7 1/2	13 1/2
4 1/4	6.00	4 1/4	7 1/2	2 1/2	20.50	7 1/2	14
4 1/2	6.25	4 1/4	8 1/4				

Limits of expansion recommended for these reamers are as follows: Sizes 1/4 to 1 1/8, .005 inch; 1/2 to 1 1/2, .008 inch; 1 inch to 1 1/2, .010 inch; 1 3/4 to 2 1/2, .012 inch. The pilots on these reamers are ground slightly undersize. Reamers for brass or bronze require special clearance and are so furnished on request.

All sizes and dimensions not listed are special and subject to special prices.

COMBINED DRILLS AND COUNTER-SINKS

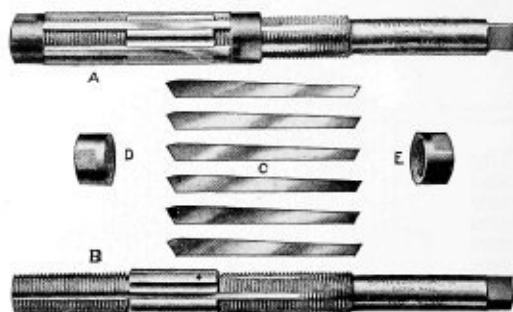


Included Angle 60 Degrees

Carbon Steel
No. 98High Speed Steel
No. 498

Size	List Price Per Dozen Carbon Steel	High Speed Steel	Diam. of Body	Diam. of Drills
20	\$2.00	\$6.00	1/8"	No. 57
21	2.25	6.00	13/64"	No. 55
22	2.25	6.00	13/64"	1/8"
23	2.50	6.00	15/64"	No. 49
24	2.50	6.00	15/64"	No. 45
25	2.75	6.00	.302	3/32"
26	2.75	6.00	.302	3/32 & 1/8"
27	2.75	6.00	.302	1/2"
28	3.50	9.00	1/2"	5/32"
29	3.50	9.00	1/2"	3/8"—5/32"
30	3.50	9.00	1/2"	1/2"

IMPROVED CRITCHLEY EXPANSION REAMERS



The illustration shows the superior design and construction of this reamer. Constructed of the very finest tool steel made. Body part "B" is one-piece, the raised shoulder shown in center of threaded section being an integral, immovable part of the body "B." The limit of expansion of blades is reached and no attempt to force further expansion should be made. Tapered ends of the blades "C" and the cup nuts "D" and "E" are accurately made to conform exactly to each other, thus enabling the most accurate work even in the hands of an unskilled operator. Capacity of each reamer is marked on its shank.

Size	Diameter	Length of Blade	Length Over All	List Price Each
A	15/32" expands to 17/32"	1 1/4"	5 1/2"	\$4.50
B	17/32" " " 19/32"	1 3/4"	5 3/4"	4.50
C	19/32" " " 21/32"	2 1/4"	6 1/2"	4.75
D	21/32" " " 23/32"	2 1/2"	6 3/4"	4.75
E	23/32" " " 25/32"	2 3/4"	7"	5.00
F	25/32" " " 27/32"	2 5/8"	7 1/4"	5.00
G	27/32" " " 15/16"	2 3/4"	8"	5.50
H	15/16" " " 1-1/16"	3"	9"	5.80
I	1-1/16" " " 1-3/16"	3 1/4"	10"	7.00
J	1-3/16" " " 1-11/32"	3 3/4"	11"	8.00
K	1-11/32" " " 1-17/32"	4"	12"	10.00

CRITCHLEY REAMERS

In Sets



A set of these tools, eleven sizes, will ream accurately any possible sized hole from 15/32 to 1-17/32". Each reamer will expand from .010 to .015" over its listed maximum size, which permits of considerable grinding before new blades are required. The six blades are slightly staggered to prevent chattering.

When furnished in complete sets, a convenient wooden box is included in price.

Jobber's Set, 8 Sizes, A to H. List Price.....\$39.80

Full Set, 11 Sizes, A to K. List Price..... 64.80

HUMPHREY-KORFF MICRO EXPANSION REAMERS



Made with high speed tungsten steel blades sliding in tapered grooves, decreasing in diameter as they slide towards shank of reamer, thus preventing reaming oversize holes when working under pressure. Blades are deeply imbedded in slots or grooves and rigidly held in place by nuts at each end. Instantly adjustable for size by loosening nuts and sliding blades up or down in tapered grooves, expanding or contracting their diameter. Each reamer is fitted at the shank end with an additional nut and ring, giving micrometer adjustment by turning the nut. Nut is graduated in .00025 of an inch as a micrometer. Blades are evenly supported their entire length, preventing rocking, and unevenly spaced to eliminate chattering. Made with Hand or Machine Shank, any taper.

Normal Size	Adjustment Range		No. of Blades	No. Morse Taper of Machine Reamer	List Price Each
	Minimum Size	Maximum Size			
1/2"	.490"	.505"	4	Not made	\$4.75
5/8"	.545"	.585"	4	Not made	4.75
3/4"	.610"	.650"	4	2	4.75
7/8"	.670"	.710"	4	2	4.85
1"	.735"	.775"	4	2	4.95
1 1/8"	.794"	.835"	4	2	5.25
1 1/4"	.860"	.910"	4	2	5.45
1 1/2"	.920"	.970"	4	3	5.70
1 3/4"	.985"	1.035"	4	3	6.00
1 7/8"	1.045"	1.095"	4	3	6.10
2"	1.110"	1.185"	6	4	6.55
2 1/8"	1.170"	1.245"	6	4	7.15
2 1/4"	1.235"	1.310"	6	4	7.75
2 3/8"	1.360"	1.490"	6	4	8.95
2 1/2"	1.485"	1.615"	6	4	10.15
2 3/4"	1.610"	1.740"	6	4	10.80
3"	1.735"	1.865"	6	5	11.40
3 1/8"	1.860"	1.990"	6	5	12.00
3 1/4"	1.985"	2.125"	8	5	12.60
3 3/8"	2.110"	2.250"	8	5	13.20
3 1/2"	2.235"	2.375"	8	5	13.85
3 3/4"	2.360"	2.500"	8	5	14.85
4"	2.485"	2.755"	10	5	15.95
4 1/8"	2.735"	3.005"	10	5	16.85
4 1/4"	2.985"	3.255"	10	5	19.60
4 3/8"	3.235"	3.505"	10	5	20.95
4 1/2"	3.485"	3.755"	10	5	24.25
4 3/4"	3.735"	4.005"	10	5	25.95
5"	3.985"	4.255"	10	5	27.65

ALERT TAP WRENCHES

Designed to fill the long-felt want for a Tap and Reamer Wrench that may be used in the most inaccessible places. Also frequently used as a pin vise, screw driver socket wrench, etc. Made in two styles and all sizes from 1/16" to 1/2". For some work there is need for an extension and this is provided in the "extra lengths" which are attachable to the regular tap wrenches as shown in illustration.

HIGH SPEED TAP WRENCH



Similar to ratchet type but without ratchet. This type is intended for use where the ratchet is unnecessary.

No.	Length over all	Capacity	List Price
4	2 1/4"	1/16" to 1/8"	\$.60
5	3 1/2"	1/8" to 3/16"	.75
6	4 5/8"	1/8" to 1/2"	1.25

RATCHET TAP WRENCH



Position for Open Work



Position for Corner Work

Instantly adjustable by pressure on small knob at top. Handle adjustable, as shown in illustration.

No.	Length over all	Capacity	List Price
1	3"	1/16" to 1/8"	\$2.00
2	3 3/4"	1/8" to 1/4"	2.00
3	5 1/8"	1/4" to 1/2"	2.50

EXTRA LENGTHS

Style "A" and "B"

Entirely eliminate the necessity of buying taps with extra long shanks. All that is necessary is the regular hand tap and a set of these long tap wrenches.

Style "X"

Intended for pullies and similar work in drilling small holes.

Equipped with square shank. Length of Extension only, Style "X", 12", excepting No. 36 "X", which is 18".

Almost any desired extension can be secured by the use of one or more extension lengths.

No.	Length over all	Capacity	List Price
4A	6 3/4"	1/16" to 1/8"	\$.90
5A	7"	1/8" to 3/16"	1.25
5B	13"	1/8" to 3/16"	1.50
5X	13"	1/8" to 3/16"	1.50
6A	7 1/4"	3/16" to 1/2"	1.75
6B	13 1/4"	3/16" to 1/2"	2.00
6X	13 1/4"	3/16" to 1/2"	2.00



PITTSBURGH AUTO EQUIPMENT CO.

SPECIAL TAPS AND REAMERS FOR FORDS

STEVENS' TAP AND DRILL SET

For Fords.



To remove broken cylinder head bolts. With this set you don't have to take off the cylinder heads. The Drill Guide, which slips into bolt hole, guides the Drill accurately thru center of broken bolt. The Tap cleans out the thread and the hole is then ready for a new standard size bolt.

List Price, set complete.....\$2.10

STEVENS' OVERSIZE TAP AND BOLT SET

For Fords.



The Special Tap has (important!) same thread pitch as standard bolt ($\frac{1}{2} \times 14$) insuring full thread. Bolts are $\frac{1}{8}$ " oversize. Bolts come in two lengths: For 1919 Ford, 3 inches; for earlier Fords, 2 $\frac{1}{2}$ inches. Specify which.

List Price, set of ten oversize bolts and one tap, \$3.10

DUPLEX REAMER FOR FORD STEERING GEAR BUSHINGS



A combination of two sizes—the larger diameter for fitting steering arm bushing No. 2714; the smaller diameter for reaming the steering body bushing No. 2713 thru the entire length of the two bushings. No. 2713-2714 Duplex Reamer.

List Price\$2.50

HINCKLEY-MYERS REAMER AND FACING TOOL

For Ford Cars



Really consists of two reamers in one, with guide which fits over drive shaft. Universal housing bolt cap, reaming and facing the bushing at the same time. Weight, 15 lbs.

List Price\$12.50



These Reamers are made with the same care and accuracy as tools used for factory production. They are the best Reamers that can be produced at low consistent prices. Made of highest grade crucible steel—accuracy guaranteed.

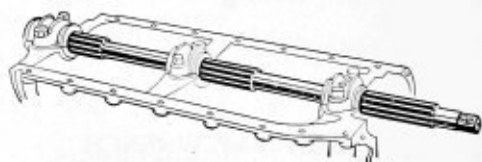
No.	Bushing.	List Price
2525-B	Differential Pinion	\$2.75
2527	Differential Spider	4.75
2540*	Drive Shaft Housing	4.25
	(same as 3320B-C)	
2559	Hub Cam Shaft.....	2.50
2713	Steering Body	2.65
2714*	Steering Arm	2.75
	(same as 3820-3844)	
3022 $\frac{1}{2}$	Piston Pin	2.75
3024	Connecting Rod—large end.....	5.65
3042*	Cam Shaft (same as 3545).....	3.15
3052-X	Valve Stem—Oversize	2.40
3058*	Valve Push Rod (same as 3521-3960).....	2.75
3058-X	Valve Push Rod—Oversize.....	3.00
3058-XP	Valve Push Rod—Oversize with Pilot.....	4.40
3304	Reverse Gear Bushing Reamer.....	15.00
3309	Slow Speed Gear Bushing Reamer.....	6.50
3314 $\frac{1}{2}$	Transmission Triple Gear.....	3.00
3320B-C*	Transmission Driven Gear Sleeve.....	3.75
	(same as 2540)	
3327-B	Driving Plate	4.40
3521*	Steering Gear	2.75
	(same as 3058-3960)	
3545*	Steering Post Bracket.....	3.15
	(same as 3042)	
3826	—Front and Rear Spring	
3884	Perch (same as 2714).....	2.75
3960	Fan Assembly	2.75
	(same as 3058-3521)	

* Indicates reamer can be used on other Ford bushings also listed above.

STEVENS' THREE-IN-ONE CRANK SHAFT BEARING ALIGNING REAMER

For Fords.

No. F-3030.



The Stevens "3-in-1" Aligning Reamer will ream all three bearings to proper size and in perfect alignment at the same time. It is one simple operation. An allowance of .0025" is made for wear of crank shaft. A set of bearings fitted with Stevens "3-in-1" Aligning Reamer will retain their adjustment as though the motor were new.

List Price, Each.....\$25.00

REAMERS IN SETS

Set No. 201 consists of "3-in-1" Crank Shaft Aligning and also the following eleven reamers: Nos. 2525-B; 2527; 2545; 2559; 2713; 2714; 3022 $\frac{1}{2}$; 3042; 3058; 3314 $\frac{1}{2}$; 3327-B.

No. 201 Reamer Set complete.

List Price\$60.90

No. 201 Reamer Set complete, same as No. 201, but "3-in-1" is omitted. List Price.....39.00

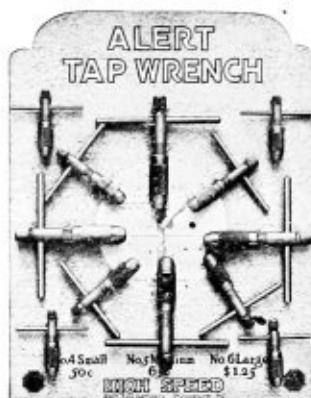
ALERT TAP WRENCH DISPLAY BOARDS

These four handsome display boards finished in striking colors instantly call your customer's attention to these sturdy time-saving tools. It is an old story that goods well displayed are half sold.



Display Board No. 123

No.	Length	Capacity	Quan.	Ret. Pr.	Tot. Val.
1 Ratchet	3"	$\frac{1}{8}$ " to $\frac{1}{4}$ "	4 @	\$2.00	\$8.00
2 "	3 $\frac{3}{4}$ "	$\frac{1}{8}$ " to $\frac{1}{4}$ "	4 @	2.00	8.00
3 "	5 $\frac{1}{8}$ "	$\frac{1}{8}$ " to $\frac{1}{4}$ "	4 @	2.50	10.00
				8 Tools.....	\$18.00



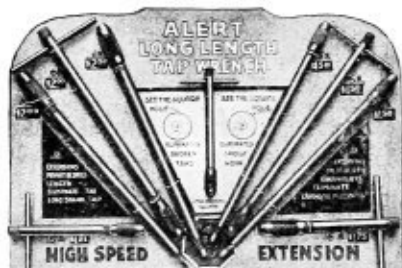
Display Board No. 456

No.	Length	Capacity	Quan.	Ret. Pr.	Tot. Val.
4 H. S.	2 $\frac{1}{4}$ "	$\frac{1}{8}$ " to $\frac{1}{4}$ "	4 @	\$.60	\$2.40
5 H. S.	3 $\frac{1}{2}$ "	$\frac{1}{8}$ " to $\frac{1}{4}$ "	4 @	.75	3.00
6 H. S.	4 $\frac{1}{2}$ "	$\frac{1}{8}$ " to $\frac{1}{4}$ "	4 @	1.25	5.00
				12 Tools.....	\$10.40



Display Board No. 36X

No.	Length	Capacity	Quan.	Ret. Pr.	Tot. Val.
3 Ratchet	5 $\frac{1}{8}$ "	$\frac{1}{8}$ " to $\frac{1}{4}$ "	4 @	\$2.50	\$10.00
6X H.S.Ex.	13 $\frac{1}{4}$ "	$\frac{1}{8}$ " to $\frac{1}{4}$ "	4 @	2.00	8.00
				12 Tools.....	\$26.00



Display Board No. ABX

No.	Length	Capacity	Quan.	Ret. Pr.	Tot. Val.
4A H. S.	6 $\frac{3}{4}$ "	$\frac{1}{8}$ " to $\frac{1}{4}$ "	1 @	\$.90	\$.90
5A H. S.	7"	$\frac{1}{8}$ " to $\frac{3}{8}$ "	1 @	1.25	1.25
5B H. S.	13"	$\frac{1}{8}$ " to $\frac{3}{8}$ "	1 @	1.50	1.50
5X H. S. Ex.	13"	$\frac{1}{8}$ " to $\frac{3}{8}$ "	1 @	1.50	3.00
6A H. S.	7 $\frac{1}{4}$ "	$\frac{3}{8}$ " to $\frac{1}{2}$ "	1 @	1.75	1.75
6B H. S.	13 $\frac{1}{4}$ "	$\frac{3}{8}$ " to $\frac{1}{2}$ "	1 @	2.00	2.00
6X H. S. Ex.	13 $\frac{1}{4}$ "	$\frac{3}{8}$ " to $\frac{1}{2}$ "	2 @	2.00	4.00
				9 Tools.....	\$14.40

B. M. ADJUSTABLE TAP WRENCH



Made in two sizes, with long knurled sleeve, affording an excellent grip. Jaws are carefully hardened and tap may be easily inserted.

No. 1 holds taps $\frac{1}{16}$ " to $\frac{1}{4}$ "; drills $\frac{1}{16}$ " to $\frac{3}{16}$ ".

List Price, Each.....\$.85
No. 2 holds taps from $\frac{3}{8}$ " to $\frac{1}{2}$ ". List Price, Each 1.70

STEVENS' "FORD" AXLE BUSHING SET
For Stripped Spindle Bolt Holes.



Stripped spindle bolt holes cannot be repaired in any other way than with these Stevens Bushings.

The combined Tap-Reamer prepares the hole for bushing which is threaded $\frac{5}{8}$ x24 outside. Inside of bushing is threaded $\frac{1}{2}$ x20 to fit the original spindle bolt.

Set of 1 Tap-Reamer and 10 Bushings.

List Price\$2.90

LITTLE GIANT SCREW PLATES

With S. A. E. Threads



The taps and dies in Little Giant Screw Plates are easy cutting and durable—highest quality tools. The taps are made with a so-called "machine relief," which reduces friction, yet the taps can be sharpened repeatedly without affecting the cutting size.

The dies are adjustable and can be reversed in the collet, allowing the operator to thread from the face side of the die instead of through the guide. This is a valuable feature when it is necessary to thread bolts or screws close to a shoulder.

No. 305—Contains one tap and one die cutting: $\frac{1}{4}$ -28, $\frac{3}{8}$ -24, $\frac{1}{2}$ -20, $\frac{1}{2}$ -20 S. A. E. threads, one stock and one tap wrench in hardwood varnished case. **List Price**.....\$18.50

No. 309—Contains one tap and one die cutting: $\frac{1}{4}$ -28, $\frac{3}{8}$ -24, $\frac{1}{2}$ -20, $\frac{1}{2}$ -20, $\frac{3}{8}$ -18, $\frac{1}{2}$ -16 S. A. E. threads, one stock and one tap wrench in hardwood varnished case. **List Price**.....\$27.50

No. 307—Contains one tap and one die cutting: $\frac{1}{4}$ -28, $\frac{3}{8}$ -24, $\frac{1}{2}$ -20, $\frac{1}{2}$ -20, $\frac{3}{8}$ -18, $\frac{1}{2}$ -18, $\frac{1}{4}$ -16, $\frac{3}{8}$ -16, $\frac{1}{4}$ -14, 1-14 S. A. E. threads, one stock and one tap wrench in varnished hardwood case. **List Price**.....\$48.25

COMBINATION ASSORTMENTS

Both U. S. Standard and S. A. E. Standard Threads



In auto repair work taps and dies for cutting both standard and S. A. E. threads are required. By combining the two threads in one case, a saving is made, because the same stock and wrench can be used for both standards. This also furnishes a convenient way of keeping the taps and dies together in one case. By buying a complete set of taps and dies the repair shop is sure of having on hand the proper size tap and die for every job.

No. 310—Contains taps and dies cutting: $\frac{1}{4}$ -20, $\frac{3}{8}$ -18, $\frac{1}{2}$ -14, $\frac{1}{2}$ -13, $\frac{3}{8}$ -16, U. S. Std., and $\frac{1}{4}$ -28, $\frac{3}{8}$ -24, $\frac{1}{2}$ -20 S. A. E. Std. One stock and one tap wrench and a bit brace die holder, all in a varnished hardwood case. **List Price**.....\$29.25

No. 311—Contains taps and dies cutting: $\frac{1}{4}$ -20, $\frac{3}{8}$ -18, $\frac{1}{2}$ -16, $\frac{1}{2}$ -15, $\frac{1}{2}$ -13, $\frac{3}{8}$ -12, $\frac{3}{8}$ -11, $\frac{1}{2}$ -10 U. S. Std., and $\frac{1}{4}$ -28, $\frac{3}{8}$ -24, $\frac{1}{2}$ -20, $\frac{1}{2}$ -20, $\frac{3}{8}$ -18, $\frac{1}{2}$ -18, $\frac{1}{4}$ -16 S. A. E. Std. Two stocks, two tap wrenches and a bit brace die holder, in a varnished hardwood case. **List Price**.....\$56.00

No. 312—Contains taps and dies cutting: $\frac{1}{4}$ -20, $\frac{3}{8}$ -18, $\frac{1}{2}$ -16, $\frac{1}{2}$ -14, $\frac{1}{2}$ -13, $\frac{3}{8}$ -12, $\frac{3}{8}$ -11, $\frac{1}{2}$ -10, $\frac{3}{8}$ -9, 1-8, U. S. Std., and $\frac{1}{4}$ -28, $\frac{3}{8}$ -24, $\frac{1}{2}$ -20, $\frac{1}{2}$ -20, $\frac{3}{8}$ -18, $\frac{1}{2}$ -18, $\frac{1}{4}$ -16, $\frac{3}{8}$ -14, 1-14 S. A. E. Std. Two stocks, two tap wrenches and a bit brace die holder, in a varnished hardwood case. **List Price**.....\$79.00

LITTLE GIANT DIE CONSTRUCTION

The Little Giant die is made in two pieces, adjusted by a set screw. The double bevel allows the user to turn the die over in the collet and thread through the face side instead of through the guide. This is an exclusive feature and a convenience many times. When tightened the die and collet are practically as solid as a single piece of steel.



LITTLE GIANT SCREW PLATES

Cutting U. S. Standard Threads



Furnished in a varnished hardwood case. Taps and dies are easy cutting and durable. Adjustable tap wrench. Dies can be reversed in the collet to thread from the face side of the stock instead of through the guide. Dies are adjustable.

No. 1—Contains one tap and one die cutting: $\frac{1}{4}$ -20, $\frac{3}{8}$ -18, $\frac{1}{2}$ -16, $\frac{1}{2}$ -14, $\frac{1}{2}$ -13 U. S. Std. threads, one stock and one tap wrench in hardwood varnished case. **List Price**.....\$18.50

No. 5 1/2—Contains one tap and one die cutting $\frac{1}{4}$ -20, $\frac{3}{8}$ -18, $\frac{1}{2}$ -16, $\frac{1}{2}$ -14, $\frac{1}{2}$ -13, $\frac{3}{8}$ -12, $\frac{3}{8}$ -11, $\frac{1}{2}$ -10 U. S. Std. threads, one stock and one tap wrench in hardwood varnished case. **List Price**.....\$30.75

REPAIRS FOR LITTLE GIANT SCREW PLATES



Stock



Guide



Die



Collet

LIST PRICES

Cutting Size	Tap	Sets of Taps	Die	No. of Collet or Stock	Collet			Stock	
					Cap	Guide	Complete	Length	Price
$\frac{1}{4}$ "	\$1.35	\$1.00		No. 1 2" dia.	.30	.20*	.50	14 1/2"	\$1.50
$\frac{3}{8}$ "	.50	1.50	1.00						
$\frac{1}{2}$ "	.55	1.65	1.25						
$\frac{3}{4}$ "	.60	1.80	1.25						
$\frac{1}{2}$ "	.70	2.10	1.50	No. 5 2 1/4" dia.	.50	.20	.70	23"	3.00
$\frac{3}{4}$ "	.80	2.40	1.50						
$\frac{1}{2}$ "	.90	2.70	1.75						
$\frac{3}{4}$ "	1.05	3.15	1.75						
$\frac{1}{2}$ "	1.20	3.60	2.00					26"	3.00
$\frac{3}{4}$ "	1.60	4.80	2.75					29"	3.00
1"	2.00	6.00	2.75						

LITTLE GIANT HAND TAPS



Easy cutting; accurate; durable. Can be sharpened repeatedly.

No. 300

Smaller than 1/4"

Furnished in U. S. Std. thread. Three styles taps carried: Taper, Plug, and Bottoming.

Diameter of Tap	List Price Each	List Price Per Set	No. of Threads to Inch U. S. Std.
1/8"	\$.35	\$1.05	40
9/64"	.35	1.05	40
5/32"	.35	1.05	36
11/64"	.35	1.05	32
3/16"	.40	1.20	24
13/64"	.40	1.20	24
7/32"	.45	1.35	24
15/64"	.45	1.35	24

No. 302

1/4" and Larger

U. S. Std. or S. A. E. Thread. Taper, Plug or Bottoming.

Diameter of Tap	List Price Each	List Price Per Set	No. of Threads to Inch U. S. Std.	S. A. E.
1/4"	\$.45	\$1.35	20	28
5/16"	.50	1.50	18	24
3/8"	.55	1.65	16	24
7/16"	.60	1.80	14	20
1/2"	.70	2.10	13	20
5/8"	.80	2.40	12	18
3/4"	.90	2.70	11	18
7/8"	1.05	3.15	11	16
1"	1.20	3.60	10	16
1 1/8"	1.40	4.20	10	14
1 1/4"	1.60	4.80	9	14 18*
1 1/2"	1.80	5.40	9	14
1 3/4"	2.00	6.00	8	14

* Std. Spark Plug Sizes.

LITTLE GIANT MACHINE SCREW TAPS

No. 305

A. S. M. E. or S. A. E. Std.



Screw Gauge No.	No. of Threads to Inch Std.	Also Furnished	List Price Each	Per Dozen
0	80	---	\$.50	\$6.00
1	72	56, 64	.50	6.00
2	64	56	.45	5.40
3	56	48	.40	4.80
4	48	32, 36, 40	.40	4.80
5	44	36, 40	.35	4.20
6	40	32, 36	.35	4.20
7	36	30, 32	.35	4.20
8	36	30, 32, 40	.35	4.20
9	32	24, 30	.35	4.20
10	30	24, 28, 32	.40	4.80
12	28	24, 32	.45	5.40
14	24	20	.45	5.40
16	22	20	.45	5.40
18	20	18	.50	6.00
20	20	16, 18	.50	6.00

LITTLE GIANT PIPE TAPS



Briggs Standard Pipe Thread

Pipe Size	List Price Each	No. Threads to inch	Length Thread	Length Over All
1/8"	\$1.00	27	3/4"	2 1/8"
1/4"	1.20	18	1 1/8"	2 7/16"
3/8"	1.60	18	1 1/8"	2 7/16"
1/2"	2.00	14	1 3/8"	3 1/8"
5/8"	2.80	14	1 3/8"	3 1/8"
3/4"	2.80	14	1 3/8"	3 1/8"
7/8"	4.40	11 1/2	1 3/4"	3 1/2"
1"	4.40	11 1/2	1 3/4"	3 3/4"

LITTLE GIANT STOVE BOLT TAPS



These Taps correspond in size to American Screw Company's stove bolts. Stove Bolt Taps are furnished in plug style only.

Sizes, lengths and threads not listed are subject to special prices. Left hand taps are special.

Diameter of Tap	List Price Each	Per Dozen	No. of Threads to the Inch
3/16"	\$.40	\$4.20	24
1/4"	.45	5.40	18
5/16"	.50	6.00	18
3/8"	.55	6.60	16

LITTLE GIANT ADJUSTABLE TAP WRENCHES



Nos. 329 and 333 Solid Style.

Nos. 338, 339 Ratchet Sliding Handles.



Nos. 00 to 8

No.	Capacity Tap Sizes	Length	List Price Each
5	1/16" to 1/2"	11"	\$2.00
6	1/8" to 3/4"	15"	2.50
7	3/8" to 1"	19"	3.50
7 1/2	3/8" to 1 1/4"	31"	6.50
8	3/4" to 1 1/2"	40"	8.00
329	1/16" to 9/32"	2 1/2"	.50
333	1/8" to 1/2"	3 3/8"	1.00
338	1/8" to 9/32"	4"	1.00
339	1/4" to 1/2"	4 5/8"	2.00

"Reliable" SCREW PLATES



COMBINATION ASSORTMENTS



UNITED STATES ST'D THREAD

No. 20	Cuts $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{8}$, $\frac{1}{2}$, with stock 15" long,	\$18.50
No. 25	Cuts $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, with stock 23" long,	27.50
No. 29	Cuts $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 with stock 26" long,	39.50
No. 35	Cuts $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ with stocks 15" and 23" long,	30.00
No. 39A	Cuts $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, with stocks 15" and 26" long,	46.50

S. A. E. ST'D THREAD

No. 200	Cuts $\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{8}$ -20, $\frac{1}{2}$ -20, with stock 15" long,	18.50
No. 250	Cuts $\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{8}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, $\frac{3}{4}$ -16, with stock 23" long,	27.50
No. 350	Cuts $\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{8}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, $\frac{3}{4}$ -16, with stocks 15" and 23" long,	30.00
No. 390	Cuts $\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{8}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, $\frac{3}{4}$ -16, $\frac{7}{8}$ -14, 1-14, with stocks 15" and 26" long,	43.50

No. 2000	Cuts $\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{8}$ -20, $\frac{1}{2}$ -20, S. A. E.	
	$\frac{1}{4}$ -20, $\frac{5}{16}$ -18, $\frac{3}{8}$ -16, $\frac{7}{8}$ -14, $\frac{1}{2}$ -13, U. S. S., with 15" stock,	\$28.25
No. 3500	Cuts $\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{8}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, $\frac{3}{4}$ -16, S. A. E.	
	$\frac{1}{4}$ -20, $\frac{5}{16}$ -18, $\frac{3}{8}$ -16, $\frac{7}{8}$ -14, $\frac{1}{2}$ -13, $\frac{5}{8}$ -11, $\frac{3}{4}$ -10, U. S. S., with 15" and 23" stocks,	47.50
No. 3700	Cuts $\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{8}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, $\frac{3}{4}$ -16, S. A. E.	
	$\frac{1}{4}$ -20, $\frac{5}{16}$ -18, $\frac{3}{8}$ -16, $\frac{7}{8}$ -14, $\frac{1}{2}$ -13, $\frac{5}{8}$ -11, $\frac{3}{4}$ -10, U. S. S., with 15" and 23" stocks,	53.50
No. 3900A	Cuts $\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{8}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, $\frac{3}{4}$ -16, $\frac{7}{8}$ -14, 1-14, S. A. E.	
	$\frac{1}{4}$ -20, $\frac{5}{16}$ -18, $\frac{3}{8}$ -16, $\frac{7}{8}$ -14, $\frac{1}{2}$ -13, $\frac{5}{8}$ -11, $\frac{3}{4}$ -10, $\frac{7}{8}$ -9, 1-8, U. S. S., with 15" and 26" stocks,	79.00

No. 500—FORD SET



Note the Hexagon Guides furnished in all "Reliable" Sets.

BIT BRACE DIE HOLDER



The handiest little tool in the shop.

This Die Holder is included with Sets containing a 15" Stock—Free of Charge.

CONTAIN

$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{8}$ -16, $\frac{1}{2}$ -20, $\frac{5}{8}$ -14, $\frac{1}{2}$ -20. "Reliable" Reversible Dies adjusted in 2 inch diameter Collets.

Plug Taps.

One Spiral Fluted Duplex Reamer for spindle body and spindle arm bushings.

One Spiral Fluted Reamer for piston pin bushings.

One 15 inch Stock.

One "T" Tap Wrench.

One Bit Brace Attachment

\$24.00

LITTLE GIANT SOLID HEXAGON DIES

No. 377.



For use only for redressing bruised or battered threads. Do not require stock or special wrench as their hexagonal shape enables them to be used with ordinary socket or monkey wrench. In ordering specify whether U. S. Std. or S. A. E. Std. is desired.

Size	List Price Each	Threads Per U. S. Std.	Inches S. A. E.
1/4"	\$.60	20	28
5/16"	.55	18	24
3/8"	.70	16	24
7/16"	.75	14	20
1/2"	.80	13	20
9/16"	.85	12	18
5/8"	.90	11	18
11/16"	.95	11	16
3/4"	1.00	10	16
7/8"	1.10	9	14
1"	1.20	8	14

ARMSTRONG PIPE DIES



We carry two sets either of which will handle practically all pipe threading jobs in the automobile repair shop. Low in price and guaranteed to give satisfaction.

No. 1 Set includes stock and four pipe dies 1/8", 1/4", 3/8" and 1/2" pipe size in neat wooden box. Weight, 5 1/2 lbs.

List Price\$9.00

No. 2 Set includes stock and five pipe dies, size 1/4", 3/8", 1/2" and 1", packed in neat wooden box. Weight 14 3/4 lbs.

List Price\$12.00

LITTLE GIANT GARAGE REPAIR SET

For Fords.



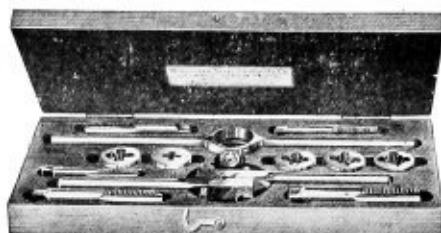
Consists of a special selection of taps, dies and reamers for handling repair jobs on Fords. Outfit includes one 9" No. 1852 Stock; 1 Adjustable Tap Wrench; 1 2-IN-1 Spiral Fluted Reamer for Spindle Body and Spindle Arm Bushings, and 1 Spiral Fluted Reamer for Piston Pin Bushings; 1 each 1/4"-28, 5/16"-24, 3/8"-24, 13/32"-16, 7/8"-20, 1 1/16"-14 and 1 1/8"-20 Plug Taps and Round Adjustable Split Dies. Weight 4 1/4 lbs.

No. 2501 Little Giant Garage Repair Set.
List Price\$17.00

WORCESTER SCREW PLATE

No. 111.

U. S. Std. Thread.



Finest quality taps and dies packed in neat hardwood box. While not including taper and bottoming taps, it will be found complete to answer the average shop requirements.

Set contains one No. 9 Die Stock; 1 No. 21 Tap Wrench; 5 Plug Taps size 1/4", 5/16", 3/8", 7/16" and 1/2"; and 5 solid round Dies (1" outside diameter) in the following sizes: 1/4", 5/16", 3/8", 7/16", 1/2".

No. 111 Screw Plate. List Price.....\$7.75

WORCESTER SCREW PLATE

No. 112.

S. A. E. Std. Thread.

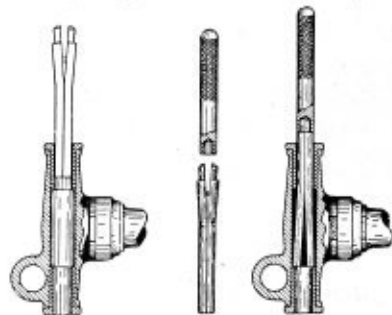
Finest quality tool steel neatly packed in hardwood case. While not including taper and bottoming taps, it will be found complete to answer the average shop requirements.

Set contains one No. 9 Die Stock; 1 No. 21 Tap Wrench; 5 Plug Taps sizes 1/4", 5/16", 3/8", 7/16" and 1/2"; 5 solid round Dies (1" outside diameter) sizes 1/4", 5/16", 3/8", 7/16" and 1/2".

No. 112 Screw Plate Set. List Price.....\$7.75

J. & B. BUSHING REMOVER

For Ford, Dodge, Overland, Chevrolet, Etc.



This Bushing Remover will easily and quickly remove the bushings from spindle body of Ford, Dodge, Overland, Chevrolet, Saxon and all cars using 1/2" spindle bolt. May be used for removing steering knuckle bushing and spring perch bushing. Bushing Remover consists of two parts, the ram to be inserted through the top bushing which automatically expands to bear upon surface of lower bushing. A shank handle is provided which is slipped over projecting globes of ram, enabling the bushing to be driven out with a few light taps of a hammer. Made of highest quality tool steel, Parker rust proof finish.

J. & B. Bushing Remover, Complete.
List Price 1.00

SIOUX BUSHING REMOVER

A very simple tool, designed to remove worn-out bushings with little or no difficulty, and with the least effort and labor.

With the advent of the Sioux Bushing Remover it is no longer necessary to use difficult and tedious methods. By its use bushings can be removed in less time than it takes to tell about it—thus materially reducing the expense incident to the old method.

The Standard Set consists of No. 1 for removing bushings from $\frac{3}{8}$ " to $\frac{1}{2}$ "; No. 2, for bushings from $\frac{1}{2}$ " to $\frac{5}{8}$ "; No. 3, for bushings from $\frac{5}{8}$ " to $\frac{11}{8}$ "; No. 4, for bushings from $\frac{23}{32}$ " to $\frac{11}{8}$ "; No. 5, for bushings $\frac{7}{8}$ " to $1\frac{1}{8}$ ", and No. 20 Blind or Pocket Bushing Remover. Packed in a neat wood box.



The Sioux Standard Set No. 50

No. 1— $\frac{3}{8}$ " to $\frac{1}{2}$ "	\$2.25
No. 2— $\frac{1}{2}$ " to $\frac{5}{8}$ "	2.50
No. 3— $\frac{5}{8}$ " to $\frac{11}{8}$ "	2.75
No. 4— $\frac{23}{32}$ " to $\frac{11}{8}$ "	3.00
No. 5— $\frac{7}{8}$ " to $1\frac{1}{8}$ "	3.25
No. 20—Blind or Pocket Bushings	5.00
No. 50—List Price of Set Complete	\$18.00

SIOUX BUSHING REMOVER

Ford Set No. 51



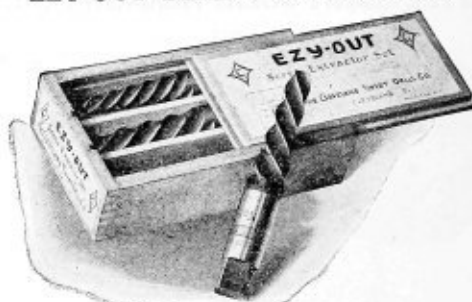
Consists of Nos. 2, 3, 4, and 5 Bushing Removers, comprising a complete Set for removing all bushings on Ford cars.

Packed in neat wood box.

No. 51 Ford Set Complete.

List Price.....\$10.75

EZY-OUT SCREW EXTRACTORS



The easiest and quickest way to remove broken bolts, pipe fittings, etc. Simply drill a hole in the broken screw

and insert the Ezy-Out Screw Extractor and screw out the broken part on its own thread without injuring the threads of original hole. Works on the simple principle of a left-hand thread. Made of best quality tool steel to withstand any kind of use or abuse.



No. 15 Ezy-Out Set

Consists of five different size Screw Extractors of the following sizes:

Tool No.	Point Diam.	Large Diam.	Length
1	$\frac{1}{8}$ "	$\frac{1}{8}$ "	2-1/32"
2	$\frac{3}{32}$ "	$\frac{3}{16}$ "	2-13/32"
3	$\frac{1}{4}$ "	$\frac{1}{4}$ "	2-23/32"
4	$\frac{5}{16}$ "	$\frac{11}{32}$ "	3-1/8"
5	$\frac{3}{4}$ "	$\frac{1}{2}$ "	3-15/32"

No. 15 Ezy-Out Set. List Price.....\$2.25

No. 17 Ezy-Out Set

Recommended as the best size for general utility service in machine shops, garages, and repair shops. Set consists of three Ezy-Out Extractors of the following sizes:

Tool No.	Point Diam.	Large Diam.	Length
4	$\frac{1}{8}$ "	$\frac{11}{32}$ "	3-1/8"
5	$\frac{1}{4}$ "	$\frac{1}{2}$ "	3-15/32"
6	$\frac{3}{8}$ "	$\frac{19}{32}$ "	3-3/4"

No. 17 Ezy-Out Set. List Price.....\$1.75

No. 16 Ezy-Out Set

Consists of four Screw Extractors of the larger sizes. Useful in removing the larger bolts, etc. Set consists of the following sizes:

Tool No.	Point Diam.	Large Diam.	Length
6	$\frac{3}{8}$ "	$\frac{19}{32}$ "	3-3/4"
7	$\frac{1}{2}$ "	$\frac{3}{4}$ "	4-1/8"
8	$\frac{5}{8}$ "	$1\frac{1}{64}$ "	4-5/8"
9	1"	$1\frac{9}{32}$ "	4-5/8"

No. 16 Ezy-Out Set. List Price.....\$4.00

HOLLY BUSHING EXTRACTORS

A new type of tool that saves hours of labor in removing worn-out bushings. Their construction and operation is so simple that they invariably give excellent service even in the hands of unskilled operators. Fool-proof, nothing to wear out. Made of best quality tool steel, insuring uniformly successful results. These tools are sold in complete sets in neat wooden boxes or separately.

SHOWING DETAILS OF CONSTRUCTION

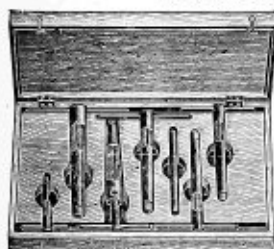
Style of Tools
Nos. 0, 1, 2, 3 & 4Nos. 79 & 579
CombinationStyle of
No. 34B

A partial list of some popular makes of cars, and number of bushings that Holly Bushing Extractors will remove from each:

Car	No. Bush.	Car	No. Bush.
Buicks	141	Ford	30
Oaklands	20	Dodge	21
Oldsmobiles	34	Chevrolet	24
Nash	19	Overlands	36
Reo	22		

Above number bushings not complete; inside diameter of some bushings in each catalogue not given.

Standard Set



Standard Set in Box

Consists of Nos. 0, 1, 2, 3, 4, and 34B Tools as illustrated. Specially recommended for shops doing general repair work. If purchased with Combination Set will handle all bushing jobs on practically all cars.

List Price\$30.00

STEVENS' BUSHING DRIVERS

For Ford Piston Pin Bushing.



List Price, per set.....\$.65

STEVENS' BUSHING DRIVERS

For Ford Steering Arm Bushing.

No. 2714—The arm is supported by the anvil, which also guides the punch while the punch drives the bushing out. Bushings are inserted by reversing operation.

List Price, per set.....\$1.00



Combination Set

Consists of a four-part combination tool with three threaded taper spools on one spindle. Spool sizes range from $1\frac{1}{8}$ " to $1\frac{1}{2}$ " on the No. 5 spool; $1\frac{1}{8}$ " to $1\frac{1}{2}$ " on the No. 7 spool; and from $2\frac{1}{4}$ " to $2\frac{3}{8}$ " on the No. 9 spool. By buying both the Standard Set and the Combination Set the repair shop is enabled to handle practically every size bushing on all cars, including many bushings used on Fords.

List Price\$15.00

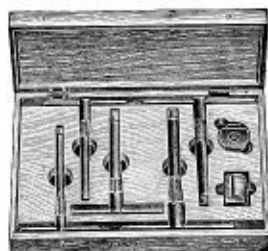
NOTE.—While a complete set of Holly Bushing Extractors is a necessity in every well-equipped repair shop, we list below the prices of single tools (in paper cartons) where the repair shop prefers to purchase one or more tools separately.

List Prices on Separate Holly Tools

Tool No.	For Bushings	List Price
0	$\frac{3}{8}$ " to $\frac{1}{2}$ "	\$3.00
1	$\frac{1}{2}$ " to $\frac{5}{8}$ "	3.75
2	$\frac{5}{8}$ " to $\frac{3}{4}$ "	4.50
3	$\frac{47}{64}$ " to $\frac{1}{2}$ "	5.25
4	$\frac{1}{2}$ " to $1\frac{1}{8}$ "	6.00
34B Taper Sleeve	$\frac{3}{4}$ " to $1\frac{1}{8}$ "	7.50
5 Spool	$1\frac{1}{8}$ " to $1\frac{1}{2}$ "	3.00
7 Spool	$1\frac{1}{8}$ " to $1\frac{1}{2}$ "	3.75
9 Spool	$2\frac{1}{4}$ " to $2\frac{3}{8}$ "	4.50
Spindle for Nos. 5, 7 and 9 Spools		4.50
79 Tool (Spindle and Nos. 7 & 9 Spools)		12.00

Special Ford Set

Consists of Nos. 1, 2, 3, 4 and 79 Tools and enables the Ford Repair Shop to remove every bushing used on the Ford car. A shop equipped with the Special Ford Set will pay big returns on the nominal cost of this tool.



Special Ford Set

List Price\$30.00

STEVENS' BUSHING DRIVERS

For Ford Steering Body Bushing.



Driving out bushings.

No. 2713—This set consists of these two tools, which quickly and accurately drive out old bushings and insert the new.

List Price, per set \$.90



Inserting bushings.

EVERYTHING FOR FORDS

The Latest Accessories and Equipment for Ford Cars and Trucks

"More Accessories and Supplies are sold for Fords than for All Other Cars"
"If it's Really Good, we have it."

 See Special "Ford" Index in Front of Catalogue 

RAYBESTOS WITHOUT WIRE

For Fords.



Intended for use on Ford transmission bands and made without wire to preclude all possibility of small particles of wire getting into the magneto. Will give longer service than any other lining. One size only $1\frac{1}{8} \times 5\frac{3}{32}$ ". Carried in rolls and in boxes containing three pieces of lining each $23\frac{1}{2}$ " long with necessary rivets the exact length needed.

Raybestos Without Wire.

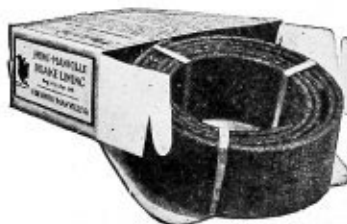
List Price, per ft. \$.41

Raybestos Without Wire, per set of three pieces

with rivets in box. List Price 2.25

JOHNS-MANVILLE BRAKE LININGS

For Fords.



Carried in 50 ft. length rolls and in cartons. Size $1\frac{1}{8} \times 5\frac{3}{32}$ ".

J-M Style XX Asbestos Lining without wire in rolls. Identical with regular Johns - Manville Non-Burn Brake Lining excepting

that it is made without wire; preventing any possibility of "shorting" the magneto, etc. Weight approximately 11 lb. to lb.

List Price, per ft. \$.35

Also carried in cartons containing three pieces $23\frac{1}{2}$ " long with necessary rivets for attachment to transmission brakes.

List Price, per carton \$2.00

CHATTERLESS TRANSMISSION BRAKE LINING

For Fords.



An excellent Brake lining that absolutely eliminates all chattering and wears very satisfactorily. Carried in boxes containing three pieces each 23 1/2" long with necessary rivets for attaching. Chatterless Brake Lining.

List Price, per set.....\$1.25

CORK INSERT TRANSMISSION LINING

For Fords.



Consists of heavy asbestos Brake Lining with cork inserts which eliminates all chatter, vibration, and jerks. Asbestos Brake Linings become hard and glazed and grip suddenly, but cork always remains springy and insures a velvety engagement of brakes. Both cork and lining wear very slowly. One set of Cork Insert Transmission Lining will outwear three sets of ordinary lining. Packed in sets of three pieces with necessary rivets for attachment. Advance Cork Insert Transmission Lining.

List Price, per set.....\$3.50

FORDOID TRANSMISSION BRAKE LINING

Without Wire.



Made by the Thermoid Company to supply the demands for a long wearing, serviceable Ford transmission Brake Lining. Packed in sets of three pieces each 23 1/2" long complete with copper rivets.

Fordoid Transmission Brake Lining, per set.....\$3.00

COTTON BRAKE LINING

For Fords.



A very low priced Transmission Brake Lining which comes in sets of three pieces with necessary rivets for attaching. This Lining is impregnated with special wear-resisting composition. Cotton Brake Lining.

List Price, per set.....\$1.15

JOHNS-MANVILLE STYLE "F" IMPREGNATED COTTON



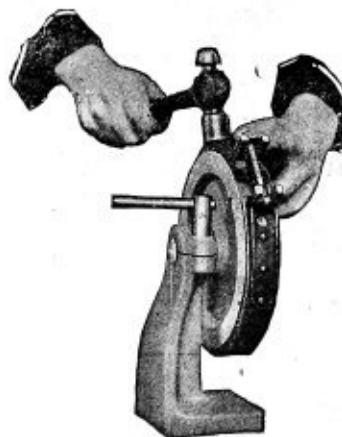
Made according to Ford Motor Co. specifications. Made without wire, insuring against short circuiting the magneto. Carried in Rolls and in Cartons containing three pieces 23 1/2" long with necessary rivets for attaching to transmission brakes. Weight approximately 12 ft. to lb.

List Price, per ft.....\$.25

List Price, per carton complete.....1.50

CONTINENTAL RIVETING JIG

For Ford Transmission Bands.



Relining and straightening Ford transmission bands is the most frequent work in Ford repair shops. Heretofore relining transmission bands has always been a long, tedious job and frequently the linings have been put on crooked and the rivets not properly clinched, not to speak of the time wasted. The Continental Riveting Jig consists of a bench bracket as shown in illustration to

which is attached a mandrel the same size as the Ford transmission drum.

The Jig is bolted to work bench and band placed around mandrel and tightened with a clamp bolt included in the outfit. Jig may be revolved and locked in any position. No up-to-date Ford repair shop can afford to be without this time-saving device.

Continental Riveting Jig. List Price.....\$7.50

RAYBESTOS DUPLEX EMERGENCY BRAKES

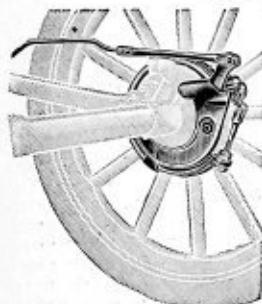
For Fords.



A powerful contracting band Brake size $8\frac{1}{2}$ " x $1\frac{1}{4}$ " Raybestos lined which fits Brake drums already on Ford cars. Two supporting fixtures and the necessary rods and clips to properly attach to Ford cars are included with the outfit.

Raybestos Duplex Brakes.

List Price, per set\$10.00

PLA-SAFE EXTERNAL EMERGENCY BRAKES

A very high grade Brake which is installed on the Ford Brake drum. All the higher priced cars have external contracting brakes on rear wheels. This large brake may be easily attached to the rear hub without drilling any holes in less than an hour's time. Strong, well made, and lined with genuine asbestos and wire brake lining all

ready for installation. Equipment does not include rods, etc.

Pla-Safe Brakes. List Price per set.....\$15.00

ROYAL EXTERNAL EMERGENCY BRAKE

For Ford Cars.



A new type of External Contracting Emergency Brake built by the Raybestos Company on the same principle as the brakes used on larger and more expensive cars. Constructed of rolled steel lined with genuine Raybestos. May be attached without the use of any other tool than a wrench. Requires

no drilling. Everything needed to attach Brake is included with outfit.

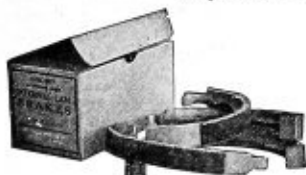
Royal External Emergency Brake.

List Price\$6.50

CAST IRON CAM BRAKES

For Ford Cars.

Raybestos Lined.



Intended to replace the brake shoes regularly furnished with Ford cars. Insures maximum braking at low cost. Packed in box containing one set.

Cast Iron Cam Brakes, Raybestos Lined.

List Price, per set.....\$1.35

RAYBESTOS ROLLED STEEL CAM BRAKES

For Ford Cars.

Raybestos Lined.



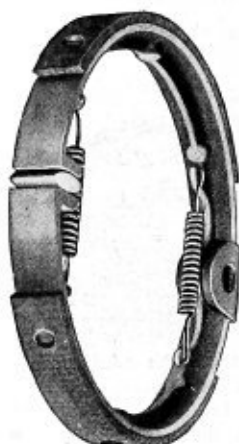
Highly recommended for even wearing qualities and long life, as they are made so that lined surface bears evenly in the inside of brake drums.

Rolled Steel Cam Brakes, Raybestos Lined.

List Price, set.....\$2.50

CLAMERT CAM BRAKES

For Ford Cars.



One of the best brakes ever made for the Ford. Consists of a high grade, unbreakable shoe lined with best quality asbestos and brass wire woven brake lining. Made with patented expansion grip and hinge which keeps brakes always in perfect alignment and adjustment. Will give phenomenal mileage without relining. Slightly higher in price but well worth the difference.

Clamert Cam Brake

Shoes. List Price

per set\$3.50

UNLINED IRON CAM BRAKES

For Ford Cars.



Made of selected gray iron carefully machined to size and drilled for rivets but without lining. Sold only in pairs.

Unlined Cam Brake Shoes

for Fords. List Price,

per pair\$1.00

CORRUGATED TRANSMISSION BAND

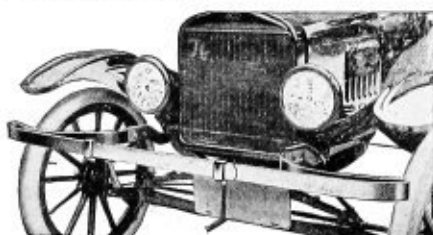
For Fords.



As shown in illustration the springy steel band with three corrugations prevents chattering and jerking. Bands are tempered spring steel and will permanently hold their shape. Sold only in complete sets of three.

List Price per set of three.....\$4.00

LYON BUMPERS—FOR FORD CARS



Lyon Bumpers for Ford cars are made of exactly the same quality material as Lyon Bumpers built for the highest priced car. Nearly 300,000 Lyon Bumpers have been sold for Ford cars which proves their value.

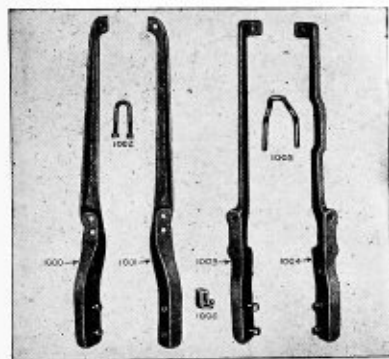
REAR

- No. 57. Black with Nickel or Brass Trimmings \$12.00
 No. 58. Nickel with Black Trimmings..... 14.00
 Shipping weight 51 lbs.

FRONT

- No. 7. Black with Nickel or Brass Trimmings \$10.00
 No. 8. Nickel with Black Trimmings..... 12.00
 Shipping weight 40 lbs.

THE LYON BUMPER "FORD" PARTS



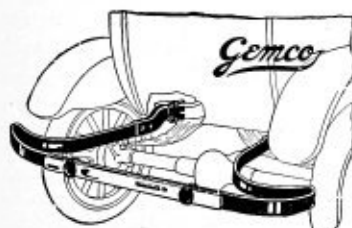
- No. 1000. Right BracketEach. \$1.68
 No. 1001. Left BracketEach. 1.68
 No. 1002. U BoltEach. .17
 No. 1003. Right BracketEach. 1.68
 No. 1004. Left BracketEach. 1.68
 No. 1005. U BoltEach. .17
 No. 1006. Front Clips, Black Finish......50
 No. 1006. Front Clips, Nick. or Brass Fin. Ea. .85
 Steel Leaves, Black Finish..... 3.85
 Steel Leaves, Nickel Finish..... 5.00

The Brackets Nos. 1000-1001 were designed for the 1917 Car, but also fit all of the older models.

The Brackets Nos. 1003-1004 can be used on a 1917 Car by forcing up the mud-guard; they, however, were designed for the 1916 Cars and earlier models.

GEMCO SPRING BUMPER FOR FORDS

(Rear)



Finish: Main bar black enamel. Reinforcing strip nickel plated or black enamel.

Each Bumper individually boxed.

WITH REINFORCING BAR

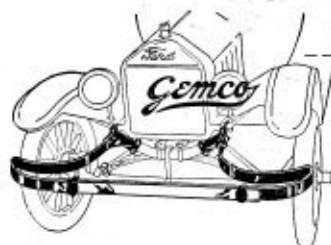
Symbol	Finish	Wt.	Price
C634N	Nkl.	40 lbs.	\$14.50
C634B	Blk.	40 lbs.	13.00

WITHOUT REINFORCING BAR

C634B	Blk.	35 lbs.	11.50
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GEMCO SPRING BUMPER FOR FORDS

(Front)



One of the very best Bumpers for a Ford is this GEMCO Spring Bumper, as it is one continuous strip of heavy high-carbon and oil-tempered steel spring with looped ends. It is reinforced in

the front with a heavy steel plate securely fastened to the main spring with two strong clamps. This complete unit is substantially fastened to two heavy malleable brackets which clamp to the front of the car frame in a very secure manner.

Finish—Bar: Nickel or black. All other parts black.

Each Bumper individually boxed.

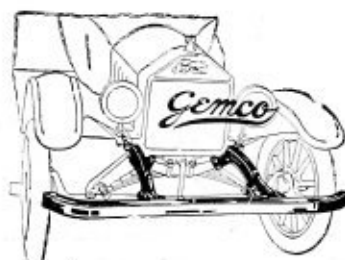
WITH REINFORCING BAR

Symbol	Finish	Wt.	Price
C609N	Nkl.	40 lbs.	\$13.50
C609B	Blk.	40 lbs.	11.50

WITHOUT REINFORCING BAR

C638B	Blk.	35 lbs.	10.50
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GEMCO FRONT FRAME TYPE FOR FORDS



The GEMCO Frame Type Bumper for Fords, clamps to the frame, is compact and strong and furnishes ample protection. It does not work loose from the spring action. It is attached easily and quickly; no bolts to be removed, no holes to be drilled and no mechanical changes to be made.

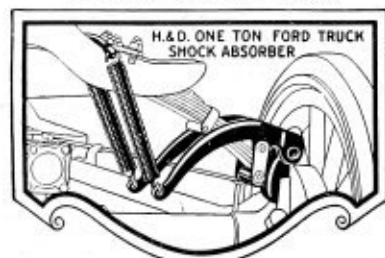
Symbol	Bar and Finish	Wt.	Price
C816N	2" Ch. Nkl.	23 lbs.	\$12.00
C816B	2" Ch. Blk.	23 lbs.	10.90
C817N	1 3/4" Ch. Nkl.	20 lbs.	11.20
C817B	1 3/4" Ch. Blk.	20 lbs.	10.50
C818N	1 1/2" Dia. Nkl.	21 lbs.	14.40
C818B	1 1/2" Dia. Blk.	21 lbs.	12.60

GEMCO REAR BUMPER FOR ALL FORD MODELS

Symbol	Bar and Finish	Wt.	Price
C794N	2" Ch. Nkl.	21 lbs.	\$13.00
C794B	2" Ch. Blk.	21 lbs.	11.80
C795N	1 3/4" Ch. Nkl.	20 lbs.	12.00
C795B	1 3/4" Ch. Blk.	20 lbs.	10.40
C796N	1 1/2" Dia. Nkl.	20 lbs.	15.30
C796B	1 1/2" Dia. Blk.	20 lbs.	13.50

H. & D. TRUCK SHOCK ABSORBERS

For Ford One Ton Truck.



Very Similar to Regular Pleasure Car H. & D. Shock Absorbers but made of much heavier material. Fit any type of one ton Ford truck. Really increase the life of Ford trucks and materially decrease tire wear, oil and gasoline consumption. Attached without drilling or injury to truck. Made in twin arm style only.

H. & D. Truck Shock Absorbers, per set of four.

List Price.....\$32.00

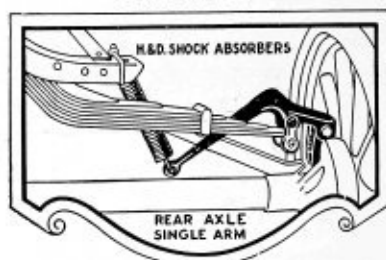
REPAIR PARTS FOR H. & D. TRUCK SHOCK ABSORBERS

ONE TON TRUCK SHOCK ABSORBERS.

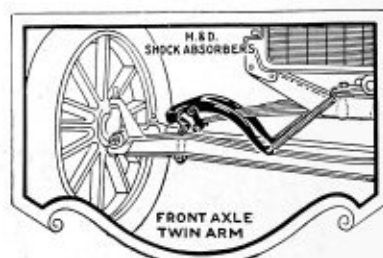
No.	List Price
41 Rear Arm Casting.....	\$10.00
42 Perch Casting.....	2.16
43 Hanger (rear).....	1.00
53 Lock Bolt with Nut.....	1.00
21 Perch Bolt.....	.75
22 Spring.....	1.00
33 Spring.....	.83
Half Set Front.....	5.00
Half Set Rear.....	28.00

H. & D. SHOCK ABSORBERS

For Ford Cars.



Over 300,000 Fords are using them today. Entirely eliminate all side sway and rebound and prevent the usual disagreeable spring breakage and increase tire mileage 25%. Easily and quickly attached without drilling or injury to car. Arms are best annealed malleable iron springs carefully tempered.



Made in two styles with single or double arm attachment and sold in sets of four.

H. & D. Shock Absorbers, single arm, per set of four. List Price.....\$16.00

H. & D. Shock Absorbers, double arm, per set of four. List Price.....\$16.00

REPAIR PARTS FOR H. & D. SHOCK ABSORBERS

No.	TWIN ARM	List Price
231 Front Arm Casting.....		\$ 2.25
232 Rear Arm Casting.....		2.25
16 Perch with Bolt.....		1.50
6 Commercial Spring (for rear).....		.65
7 Sedan Spring (for rear).....		.65
8 1/2 Touring Spring.....		.60
10 Roadster Spring (for rear).....		.60
23 Front Spring Clip.....		.34
24 Rear Hooks (2).....		.34
25 Twin Sedan Hook (rear).....		.25
51 3x1/4 Front Bolt (with castle nut).....		.50
52 3 1/2x1/2 Rear Bolt (with castle nut).....		.50
No.	SINGLE ARM	List Price
11 Left Front Arm Casting.....		\$2.25
12 Right Arm Casting.....		2.25
13 Right Rear Arm Casting.....		2.25
14 Left Rear Arm Casting.....		2.25
16 Perch with Bolt.....		1.50
3 Sedan Spring (rear).....		.75
4 Touring Spring.....		.75
5 Roadster Spring (rear).....		.75
01 Front Hook.....		.25
02 Rear Hook.....		.25
03 Sedan Hook (rear).....		.50

SPRINGS

For Ford Cars.



Made of best quality special analysis spring steel heat treated and oil tempered to exactly the right hardness. Clip holes are bushed and equipped with tight clips guaranteed free from defects. Front spring seven leaves, size 32x1½". Rear Spring eight leaves, size 46x2".

Front Spring for Fords. List Price, Each.....\$ 4.00
Rear Spring for Fords. List Price, Each..... 10.00

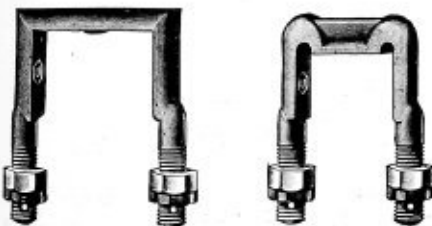
For Ford Trucks.

Nine Leaves Made Extra Strong.

Rear Spring (right or left.) List Price Each.....\$6.00

SPRING CLIPS

For Fords.



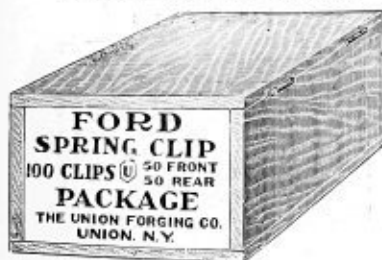
Drilled for cotter pins and equipped with two castellated nuts, for Front or Rear Springs. Be sure to specify which type is desired when ordering.

Front Clips. List Price, Each.....\$.40
Rear Clips. List Price, Each..... .45

F-100 SPRING CLIP ASSORTMENT

For Fords.

100 Clips—50 Front, 50 Rear.



Complete with castellated nuts and cotter pins. Packed in neat wooden box with hinged cover.
F-100 Spring Clip Assortment. List Price.....\$42.75
Also sold in Boxes of 25 Front or Rear Clips, complete with cotter pins and castellated nuts.

SPRING SHACKLES WITH GREASE CUPS

For Fords.



A complete shackle with bolts and grease cups. Each bolt is drilled and equipped with locking device to prevent loss of nut. Exactly fits all Ford cars. In ordering specify whether front or rear shackle is desired.

Front or Rear Spring Shackle Complete with Grease Cup Equipped Bolts.

List Price, Each.....\$2.00

TRUCK FENDERS

For Ford Trucks.

No. 1



A handsome Crown Fender for use on Ford trucks of the later model which are originally equipped with Crown Type Fender. Heavy gauge Automobile Fender Steel finished in handsome baked-on black enamel with heavy attaching irons shipped ready for attachment.

No. 1 Truck Fenders. List Price, per pair.....\$7.00

TRUCK FENDERS

For Ford Trucks

With Apron.

Nos. 3 and 5.



Of the same high quality materials and finish as No. 1 Truck Fender and very similar in construction but intended for use on 1 Ton Ford Truck or where Ford chassis has been extended, as Form-a-Truck and other Truck Units. Equipped with two irons and apron. Shipped ready to attach. No. 3 is for use with regular tires. No. 5 for use with 32x4½ pneumatic tires.

No. 3 Truck Fenders. List Price, per pair.....\$7.00

No. 5 Truck Fenders. List Price, per pair..... 7.50

TRUCK FENDERS

With Apron.

No. 2.



Heavy Automobile Steel finished in black baked-on enamel. These Fenders do not require irons and are attached to truck body with bolts, being reinforced with three substantial plates or braces. In ordering specify whether for use with shafts or chain drive. Shipped complete ready for attachment.

No. 2 Truck Fenders. List Price, per pair.....\$7.00

TRUCK FENDERS

Without Apron.

No. 4.



Practically a duplicate of No. 3 Fender but not equipped with apron. A strong, sturdy, low priced Fender.

No. 4 Truck Fenders. List Price, per pair.....\$6.40

FENDERS

For Ford Cars Prior to 1917.



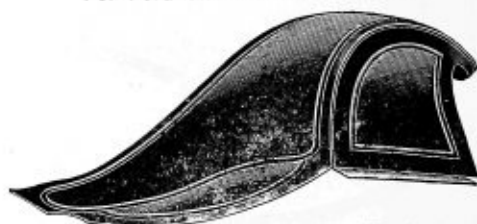
These Fenders have the graceful lines and rounded arch found only in connection with higher priced cars. Interchangeable with regular Ford Fenders, but made with extra strength and rigidity preventing vibration and rattle. Made of extra heavy gauge automobile fender steel and finished in high gloss baked-on enamel. Well worth the slight difference in price over cheap fenders. Sold complete ready to attach.

List Prices.

4 Fenders Complete.....	\$21.00
Front Fenders only.....	12.50
Rear Fenders only.....	10.50

FENDERS

For Ford Cars Later Than 1917.



Front.



Rear.

These Fenders are interchangeable with the Standard fenders regularly furnished with the latest Ford cars. Made of very heavy gauge automobile fender steel and neatly finished in black baked-on enamel. Have the new handsome full crowned appearance and will add greatly to the looks of any Ford car. Made extra heavy for hard service.

List Prices.

4 Fenders, per set.....	\$21.00
Front Fenders only, per pair.....	13.00
Rear Fenders only, per pair.....	10.50

RUNNING BOARD SHIELDS

For Fords



Fit all Ford cars from 1915 to 1920, inclusive. Twenty gauge automobile fender steel, handsome baked-on black enamel finish.

Running Board Shields. List Price, per pair.....\$8.80

HOODS

For Ford Cars



Made with the new stream line effect fitting all Fords from 1915 to 1920, inclusive. Heavy gauge automobile sheet steel finished in high gloss baked-on enamel finish.

List Price\$9.10

WHOLESALE DISTRIBUTORS

HOOVEN RADIATORS

For Fords

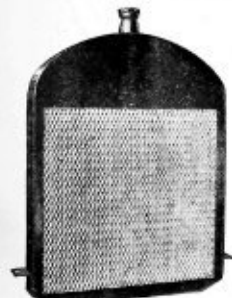


Its all-brass construction prevents possibility of leaks or corrosion. Constructed of 34-gauge brass, with a combination of the honeycomb and tubular type of construction, giving greatly increased strength and durability. If frozen it may be repaired at nominal cost on account of the accessibility of the cells. In ordering specify year of car, as Fords earlier than 1917 have different shaped hood than those of later date.

Hooven Radiators. List Price, Each.....\$30.00

HOOVEN RADIATORS

For Ford Trucks



Front View



Rear View

Made heavier and larger than the regular Hooven Ford Pleasure Car Radiators and equipped with extra water capacity by means of a larger tank at top of radiator as shown in rear view. Particularly recommended for Ford trucks, as it lessens the liability to overheat. Construction is similar to regular Hooven Radiator, excepting as above indicated.

Hooven Radiators for Ford Trucks. List Price, \$42.00

MOTO METERS

For Fords.

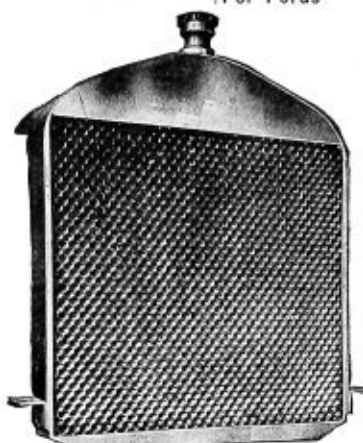


Especially valuable on Ford cars which frequently have tendency to over-heat. This model furnished complete with specially designed radiator cap. Size 2 3/8" x 7/8". Moto Meters For Fords.

List Price\$3.50

LAWSON RADIATORS

For Fords



White enameled, giving a very handsome appearance with black shell.

Made with all brass core of special construction, insuring flexibility and long service. Guaranteed to be interchangeable with regular Ford Radiators. Insures a maximum cooling capacity under all conditions.

- No. 1116—Fits all Fords, 1911 to 1916, inclusive.
List Price\$30.00
Core only. List Price..... 16.00
- Model 1720—Fits all Ford cars and trucks from 1917 to 1920, inclusive. Will also fit 1915 and 1916 models if used with a special Lawson Hood.
Finished in black enamel, complete with shell. List Price..... 30.00
Finished in polished nickel plate, complete with shell. List Price..... 37.00
Core only, without shell. List Price..... 18.00
Black enameled shell only. List Price..... 3.00
Nickel plated shell only. List Price..... 6.50

RADIATOR CAPS

For Fords.



No. 1.



No. 2.

Made in two styles. A neat Radiator Cap will greatly improve the looks of the Ford.

No. 1 Black rubberized finish, guaranteed rust proof. A handsome, rich looking cap.

List Price\$.50

No. 2 (Ford No. 3926) "Regular Type" Cap, white metal, polished nickel finish.

List Price\$.20

RADIATOR HOSE

For Fords

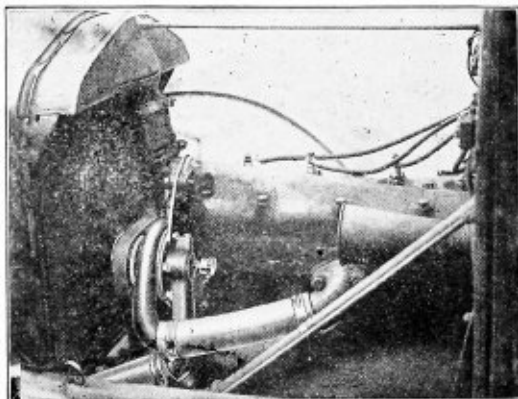


Made of the best quality molded rubber with 3-ply fabric lining. This hose connection will outlast several times the ordinary kind.

- Inlet—Size 1 3/8" x 2 3/4" long, 3-ply; fits all Ford cars. List Price, Each.....\$.15
Outlet—Size 2" x 3 3/4" long, 3-ply; fits 1916 and earlier model Fords. List Price, Each..... .18
Outlet—Size 2" x 4" long, 3-ply; fits 1917 and later model Fords. List Price, Each..... .20

ATLAS WATER CIRCULATING PUMP

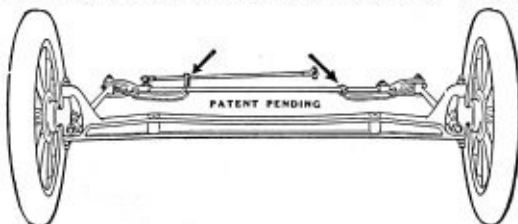
For Fords.



Half the Ford cars or trucks in daily use are over-heating—the water boiling with a consequent waste of oil, fuel and efficiency. The Atlas Centrifugal Water Pump may be attached to any Ford in less than 20 minutes by one man. All fittings are included and no drilling required, the only tools needed being a wrench and screw driver. To attach simply take out two bolts that fasten water outlet to the cylinder jacket, slip in pump bracket and gasket, screw up bolts, fasten water connection, and put on fan belt, hose and fasteners.

Atlas Water Circulating Pump. List Price.....\$10.00

ANTI-RATTLERS FOR STEERING ROD



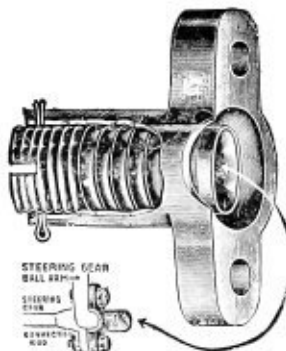
A strong spring which instantly stops the rattle on all cars with open end steering rods, keeping knuckles and joints rigid. Weight 5 oz. per pair. Packed in neat counter display carton containing one dozen pair.

Little Giant Steering Rod Anti-Rattlers.

List Price, per pair.....\$.75

STEERING ROD ANTI RATTLERS

FOR Fords.



Replaces the solid caps on steering rod connections regularly furnished with Ford. Equipped with strong spring and adjustable plug for taking up wear, the spring keeping a tension on the ball. Malleable iron black enameled.

Steering Rod Anti Rattlers.

List Price, per pair.....\$.45

ANTI RATTLING BRAKE ROD SUPPORTS

FOR Fords.



Made of malleable iron with ball and spring providing a constant tension on the brake rod yet permitting free operation of brake. Entirely eliminates all rattle. Finished in black enamel.

Anti Rattling Brake Rod Supports.

List Price, per pair.....\$1.00

RADIUS ROD ANTI RATTLERS

FOR Fords.



For use in place of solid cap holding the radius rod ball originally furnished with the Ford. Equipped with a strong spring providing a constant tension on the ball and fitted with adjustable screw plug for taking up wear. Malleable iron black enameled.

Radius Rod Anti-Ratter. List Price, Each.....\$.40

BRAKE ROD ANTI-RATTLERS



Fit practically all cars but are particularly recommended for Fords. A simple spring device which effectually stops all rattle due to wear in clevis and pin. Ford cars use one set. Other cars use two sets. Packed in neat counter display carton containing one dozen sets of four springs.

Baby Giant Brake Rod Anti-Rattlers.

List Price, per set.....\$.50

EXHAUST PIPE ANTI-RATTLERS

Takes all of the rattle out of the Ford Exhaust Pipe and prevents the pack nut from working loose. Can be put on in a few minutes without special tools.

Exhaust Pipe Anti-Rattlers. List Price, \$.60



FENDER BRACES

For Fords.



Instantly stop the rattle and squeak of fenders and prevent their being torn by vibration. Made of stamped steel black japanned. Upper illustration shows braces for front fenders for attachment to running board windshield. Lower illustration shows rear fender brace to be fastened to support rod of runabouts. Prices include screws and nuts. Sold only in pairs.

Front Fender Braces. List Price, per pair.....\$.15

Rear Fender Braces. List Price, per pair.....\$.10

RADIUS RODS

For Fords.



Best quality seamless drawn steel with end securely connected. Carefully made of best quality material.

Radius Rods. List Price Each.....\$3.00

J. M. C. RADIUS RODS

For Fords.

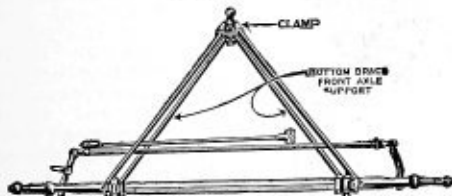


No welded or brazed joints. Nothing to break. Stud or axle end are attached to tube arms by special patented process eliminating all weakness and consequent breakage. Clamp head is detachable and when damaged a new arm is easily installed. Made of special quality alloy steel.

J. C. M. Radius Rods.....\$3.00

TUBULAR RADIUS ROD SUPPORTS

No. 1.



Relieves the strain on the front axle and reinforces Ford radius rods. Consists of two rod steel tubes with malleable iron clamp. Clamp is two piece type, the lower half being tapped and slotted for easy adjustment of the steel tubes. When rods are adjusted to proper length fasten under front axle using the same bolts which held front spring shackle, then apply bolt through clamp and tighten up nut on crotch of radius rod which clamps both radius rod and support together, making a rigid fastening. Black Japanned finish.

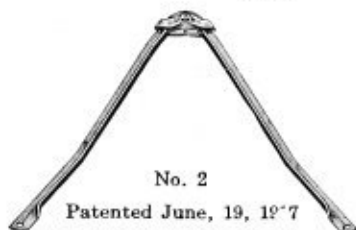
No. 1 Radius Rod Supports.

List Price, per set.....\$2.50

RADIUS ROD SUPPORTS

For Ford Cars.

No. 2.

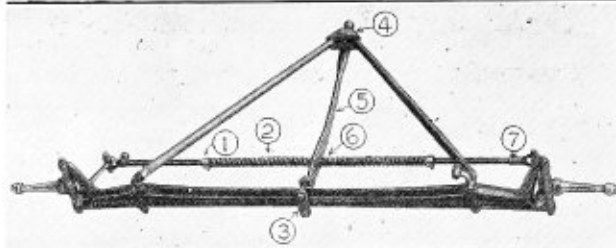


No. 2 Radius Rod Support. List Price.....\$1.75

A one piece angle iron brace made of 1"x1"x 1/8" stock. Angle construction gives added strength. Black Japanned finish. Weight 4 1/2 lbs.

AUXILIARY AXLE SUPPORT AND BRACE BAR

Holds 'em in the Road.

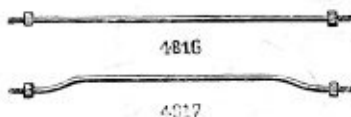


The only device which prevents vibration of the Ford tie rod and stops all rattle. Makes driving easier and safer and acts as auxiliary axle support and brace bar. Tie rod is held between compression coil spring. Made in two styles: No. 5 1/2 Fits 1920 Fords; No. 5 fits all older style models.

List Price, Either style.....\$5.50

RUNNING BOARD TRUSS ROD

For Ford Cars.



These rods are made of 1/2 round Bessemer steel fitted with 1 1/8 hex nut at each end. Made in standard tread.

No. 4816—4817. List Price, Each.....\$.40

REAR AXLE TRUSS

Supports the Rear Axle Housing, eliminating the trouble so common to cars that are heavily loaded. Made of drop-forged steel rods, half-inch in diameter, heavy, well-designed, malleable, clamps and fitted with our self-aligning cradle, which prevents axle housing from getting out of line. Each Truss is packed in an individual carton, and it can be put on the car in a few minutes without special tools.



Rear Axle Truss. List Price.....\$2.00

PITTSBURGH AUTO EQUIPMENT CO.

FIRESTONE DEMOUNTABLE WHEELS

For Fords.



Simple in construction and strongly made, making them safe under all conditions. Firestone Demountable Rims are used as standard equipment on the majority of high priced cars. Firestone Demountable Wheels for Fords are equally convenient and valuable.

Complete set consists of four 30x3½" Complete Wood Wheels with rims but without hubs and include one extra rim. Wheels are made of best second growth hickory stock finished in natural wood color.

Firestone Demountable Wheels.

List Price, per set.....	\$35.00
Federal Tax	1.05
Extra Firestone 30x3½" Type "F" Rim Only.	
List Price, Each.....	\$3.18
Federal Tax	.09

FIRESTONE 32 x 4½" DEMOUNTABLE RIM WHEELS

For Ford One-Ton Trucks.



Pneumatic tires invariably increase speed, have longer life and decrease the upkeep of trucks. By using these wheels with pneumatic tires the same load may be carried further and at less cost per mile.

List Price, per set.....	\$33.00
Federal Tax	1.45
Extra 32x4½" Type "E" Firestone Rim.	
List Price	5.42
Federal Tax	.16

PASCO WIRE WHEELS

For Ford, Chevrolet 490, and Overland Four Cylinder.



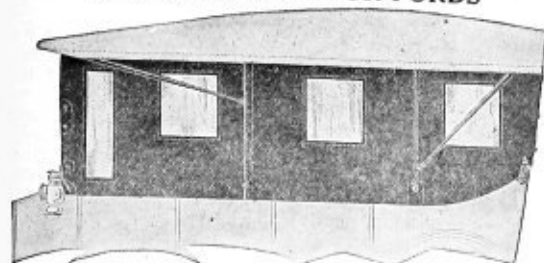
Very light in weight and by actual test five times stronger than wooden wheels of equal size. Pasco Wire Wheels are easily and quickly changed in less than three minutes. True and balanced on a special machine. They will not wobble, and being made with sixty spokes have the strongest possible construction. Hub is secured by a two piece hub cap with double lock nuts and right and left hand threads. Made with maximum curb clearance, therefore no danger of bending or knocking loose spokes. Tread is 56" and wheels are guaranteed rust proof.

A complete set consists of five 30x3½" wheels with clincher rims, 4 inner hubs, or inner hub adaptors, 4 hub caps, 4 retaining rings and 1 hub cap wrench. Dust covers extra. Furnished in black, red, white, green and cream, or blue enameled finish. The same wheels will fit Ford, Chevrolet and Overland, but Overland and Chevrolet cars require special inner hubs.

Pasco Wire Wheels for Fords.	
List Price, per set.....	\$90.00
Pasco Wire Wheels for Chevrolet 490.	
List Price	95.00
Pasco Wire Wheels for Overland four cylinder.	
List Price, per set.....	95.00
In ordering be sure to specify color and car.	
Federal tax extra.	

WHOLESALE DISTRIBUTORS

SIDE CURTAINS—FOR FORDS



Made of the same heavy auto rubber as our top receivers and fitted with extra heavy celluloid lights. As these curtains are interchangeable in size with those regularly furnished for Ford cars, the garage can add a nice profit by carrying a few in stock.

Side Curtains for Ford Touring Cars.

List Price, per set.....\$17.50

Side Curtains for Ford Roadsters.

List Price,\$11.50

TOP RECOVERS

For Fords.



These covers are made of best auto rubber with heavy celluloid rear curtain lights. Each set consists of roof, side quarters, back quarters and back curtains with three celluloid lights. Sewed and finished ready for attachment to old frame. As these tops are made to exactly fit the old frame the recovers can be attached in less than half an hour. Furnished with all necessary welts, binding and tacks with full instructions for attachment. Prices do not include side curtains.

Top Recover, for Ford Touring Cars.

List Price\$16.75

Top Covers for Ford Roadsters.

List Price13.00

Back Curtains Only, with three celluloid lights.

List Price5.90

Black Curtain only with two glass lights.

List Price9.25

TOP RESTS

For Fords made out of Japanned iron cover with harness leather and padded to prevent marring boots. Complete with straps as shown in illustrations.

Top Rests. List Price,

per pair.....\$1.30



TOP STRAPS

For Fords.



Made of best harness leather with neat Japanned buckles. Sold in sets of four or in pairs. Front straps have footman loop and hook buckle rear straps. Have buckle, footman-loop, and riveted-on ring.

Top Straps, Front. List Price, per pair.....\$.85

Top Straps, Rear. List Price, per pair.....1.65

ANTI-DRAFT SHIELDS

For Ford Cars.

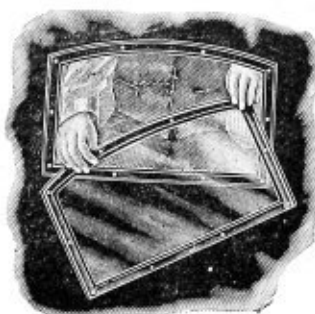


Keeps out rain and wind. Fastens to top and windshield. Made of best quality imitation leather.

Anti-Draft Shields. List Price Each.....\$.75

REAR CURTAIN LIGHTS

For Ford Cars.



Made of selected celluloid and found with leather gimp. Complete with snap buttons ready to attach. No tools, sewing, nor trouble. Attachable in a few moments by means of fasteners furnished with curtains.

1916 and earlier Fords use one curtain size 18"x10".

1919 and earlier Fords use one curtain size 18"x10".

Rear Curtain Light for 1916 and Earlier Fords.

List Price\$.75

Rear Curtain Light for 1917 and later Fords.

List Price, per set of 3.....\$ 2.25

"STIK-TITE" TOP PATCHING STRIPS



"Stik-Tite" Roof Patches not only mend tops in a satisfactory and permanent way, but top will be absolutely waterproof wherever "Stik-Tite" Patches are attached.

These strips are convenient for all repair shops, as they can be cut to fit any repair needed in roof, side or back curtains. Full instructions printed on every strip. Packed dozen strips in a box.

No. A-635—"Stik-Tite" Roof Patching Sheet, size 3"x12". Made of Auto Rubber, suitable for patching Ford and other imitation leather tops. List Price.....\$.50

No. A Patches made of Auto Rubber, especially for Fords; 11 assorted sizes in box. List Price, per box......40

"STIK-TITE" CURTAIN WINDOWS



No. 17 Ford To fit 1917-1918 models



No. 1—"Stik-Tite" Window to Fit 1916 and all earlier models of Ford cars. Price Each Window

No. 1—"Stik-Tite" Back Curtain Window, made of Auto Rubber, for Fords, 1916 and all earlier models, complete ready to attach. List Price Each.....\$1.00

No. 17—"Stik-Tite" Back Window Curtain to fit Ford models 1917, having three small windows in each curtain, or will fit any opening 9 1/4 inches long or less, or 5 1/4 inches wide or less. Made of Auto Rubber. List Price Each......60

PITTSBURGH AUTO EQUIPMENT CO.

RADIATOR AND HOOD COVERS

For 1918-19-20 Fords.



Made of the best quality enamelled duck and lined with thick heavy Kersey material. Equipped with button type flap, permitting the desired radiator exposure. Made to exactly fit, without unsightly wrinkles.

Made of the same high quality materials.

- No. 103 Ford Radiator Cover Only. Lined but not Quilted. List Price, Each.....\$2.00
 No. 104 Ford Engine Cover Only. Lined but not Quilted. List Price, Each.....\$3.15
 No. 103-104 Ford Radiator and Engine Cover Complete. Lined but not Quilted. List Price, Each \$5.00
 No. 17 Ford Radiator Cover Only. Lined and Quilted. List Price, Each.....\$3.00
 No. 18 Ford Engine Cover Only. Lined and Quilted. List Price, Each.....\$3.25
 No. 17-18 Ford Radiator and Engine Cover. Complete. Lined and Quilted. List Price.....\$6.00

ALUMINUM HEEL PLATE

For Fords.

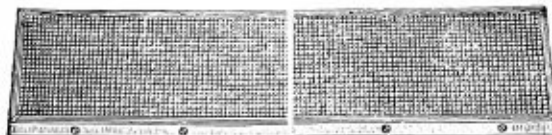


Made of heavy pyramid aluminum with smooth edge. Size, 4½"x7½". Exactly fits in place behind pedals.

Aluminum Heel Plate.

RUNNING BOARDS

For Ford Cars.



A solid running board lined with sheet iron and covered with Pyramid matting or linoleum and bound with aluminum or brass corrugated molding. Furnished with necessary bolts and nuts. Linoleum is brown in color.

- No. 1—Aluminum Matting. List Price, per pair.....\$10.00
 No. 3—Linoleum with alumnoid molding. List Price, per pair.....8.50

RUBBER FLOOR MATS

For Fords.



Molded to the exact size and shape of the front floor of Ford cars. Made of good quality heavy rubber.

Front Floor Mats.

List Price Each, \$2.50

RUNNING BOARD COCA MAT

For Fords.



A heavy coca fibre mat size 12"x8" for attachment to running boards as foot wiper,

etc. This mat is equipped with heavy wire spring clamps which securely fasten it to running boards. Invaluable in "muddy" weather as it keeps the interior of the car clean.

Running Board Coca Mat. List Price.....\$1.50

COCA FLOOR MATS

For Fords.

The exact size and shape of rear floor of Ford cars. Fine quality genuine coca fibre with edges bound to prevent raveling.

Coca Rear Floor Mat. List Price.....\$4.50

PERFECTION RUBBER PEDAL PADS

For Ford Cars.



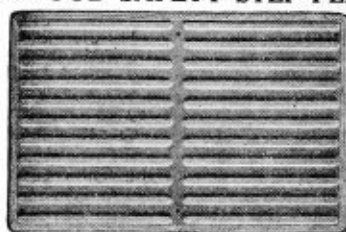
Patented
Dec. 21, 1915

Molded of best quality rubber with nickel plated metal clamps which bend around pedal, holding it securely in place. Sold in sets of three pads.

Perfection Rubber Pedal

Pads. List Price, per set, \$1.50

STANWOOD SAFETY STEP PLATE



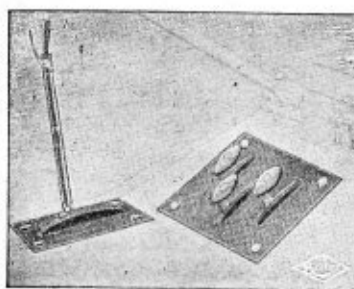
No. 90 Ford Type.

Rubber vulcanized to a perforated metal plate, 22 projecting ribs, size 7½ inches wide, 11½ inches long. The base of plate is provided with six lugs to support it on a level with the embossings on the Ford running board. Screws, Lock Washers and Nuts furnished with this plate.

No. 90 Stanwood Step Plate. List Price.....\$1.60

PEDAL AND BRAKE SHIELD

For Fords.



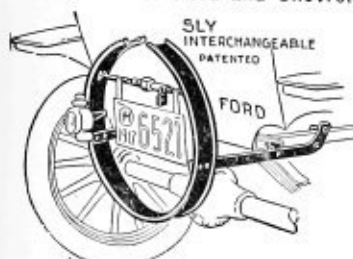
Fastens to floor board around pedals and emergency brake as is shown in illustration and keeps out dirt or dust and the strong, disagreeable air draft. Made of heavy enamelled duck.

Pedal Brake Shield, heavy enameled duck.

List Price, Each.....\$1.50

NEW ERA "SLY" REAR TIRE CARRIER

For Ford and Chevrolet 490.



For one or two demountable rims or tires. Holds tires or rims rigidly by expansion grip and may be locked through turnbuckle. Cannot chafe. Equipped with bracket for lamp and license plate.

For Ford Cars No. 150 Single—Plain Rims.

- | | |
|----------------|------------------|
| No. 152 single | demountable rims |
| No. 252 double | plain rims |
| No. 254 double | Firestone rims |

For Chevrolet 490.

- | | |
|--|----------------|
| No. 151 single | plain rims |
| No. 152 single | Firestone rims |
| No. 253 double | plain rims |
| No. 255 double | Firestone rims |
| Nos. 150, 152, 151, 153 and single. (Weight 13 lbs.) List Price.....\$6.00 | |
| Nos. 252, 254, 253, 255 double. (Weight 20 lbs.) List Price.....8.00 | |

Packed on in carton.

REAR TIRE CARRIER

For Fords.
No. 100.



Equipped with tubular supports and adjustable for width. Strongly constructed with clamp to which a lock may be attached. Finished in black enamel. In ordering specify whether for touring car or sedan.

- | | |
|----------------------|-----------------------|
| For one 3 1/2 Tire. | List Price.....\$7.50 |
| For one 4 Tire. | List Price.....8.00 |
| For two 3 1/2 Tires. | List Price.....10.00 |
| For two 4 Tires. | List Price.....10.50 |

RUNNING BOARD TIRE HOLDER

For Ford Cars.
No. 200.



Light, strong, neat and durable. Will handle one or two tires with or without demountable rims or wheels. Fits all Fords later than 1915. Sold complete with straps.

- | | |
|------------------------------------|-----------------------|
| No. 200 Running Board Tire Holder, | List Price.....\$2.50 |
|------------------------------------|-----------------------|

ADJUSTABLE TIRE CARRIER

For Ford or Chevrolet.



For use on running board providing a neat method of carrying one or two tires. Requires very little space. Constructed of black enameled finish. In ordering specify tire dimensions.

- | | |
|----------------------|-----------------------|
| For one 3 1/2 Tire | List Price.....\$5.00 |
| For two 3 1/2 Tires. | List Price.....7.00 |

"BASKET TYPE" REAR TIRE HOLDER

For Ford Cars.
No. 201.



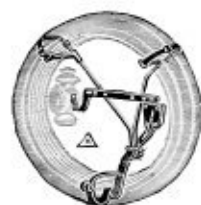
Adjustable for 3" or 3 1/2" tires and may be locked. License holder and lamp socket built onto this holder. Adjustable for 3" or 3 1/2" tire. Holds tires securely without chafing and requires no straps.

Attachable in five minutes. A neat tire holder that greatly improves the appearance of Ford Cars. Made of pressed steel black enamel.

- | | |
|--|-----------------------|
| No. 201 Basket Type, Rear Tire Holder. | List Price.....\$6.00 |
|--|-----------------------|

LOCKING BASE REAR TIRE HOLDER

For Ford Cars.
No. 1287.



Fastens to rear frame making an extra strong rigid tire lock. License bracket and lamp support built onto tire holder being rigidly clamped around to vertical support arms eliminating the usual excessive vibration. The locking base insures against theft. Holds one or two tires and sold complete with straps. Made of malleable iron and steel and finished in neat black enamel.

- | | |
|---|-----------------------|
| No. 1287 Locking Base Rear Tire Holder. | List Price.....\$7.50 |
|---|-----------------------|

DEMOUNTABLE RIM REAR HOLDERS

For Ford Cars.
No. 1286.



Holds one or two Rims rigidly in position without the use of straps and does not chafe rubber as no metal touches the tires. Malleable iron and steel of rigid construction and easily attached to rear cross members of frame by means of two heavy clamps which prevent vibration. May be locked by passing a padlock through two adjusting lever screws. Fits all Fords later than 1909.

- | | |
|---------------------------------------|------------------------|
| No. 1286 Demountable Rim Rear Holder. | List Price.....\$12.00 |
|---------------------------------------|------------------------|

RUNNING BOARD TIRE HOLDER

For Ford Cars.

No. 86 and 69.



Consists of two strong adjustable arms with additional bracket fitting between them. No. 86 holds either one or two 3" or 3½" tires. No. 69 holds one or two 3" or 3½" demountable rims. Tires may be locked by using padlock. Sold

complete with straps and without padlock. Neat black enamel finish.

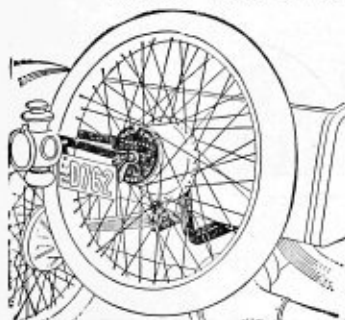
No. 86 Running Board Tire Holder

List Price, Each.....\$3.00

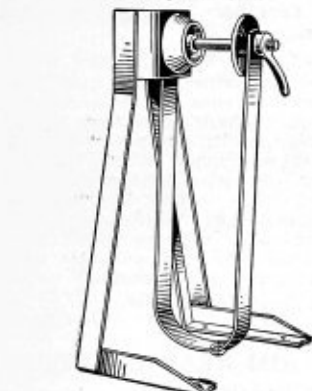
No. 69 Running Board Tire Holder

List Price, Each.....\$3.00

NEW ERA REAR OR SIDE WIRE AND WOOD WHEEL CARRIER



Rear Roadster View



Side Type

Attaches to spring clip under four nuts of Ford car. The continuous band from rear of hub hinges at tire provides for lamp and the license bracket and also enables wheel to be locked on carrier. Side type fastens on the running board using four holes now used for the braces. Wheel is held similar to rear type carrier. Finished in black-on enamel. Packaged one in carton. Weight 13 lbs.

New Era Rear Wheel Carrier. List Price.....\$5.50

New Era Side Wheel Carrier. List Price..... 5.50

DEFENDER IGNITION SWITCH LOCK

For Fords.

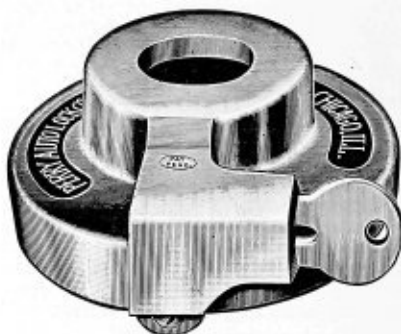


Locks and protects coil units with hardened steel band. Car cannot be started until switch is unlocked with your own key. Approved by insurance underwriters, saving 15% insurance and guaranteed for the life of the life of the car. Handsomely finished with solid aluminum casing.

Defender Switch Lock. List Price.....\$4.00

PERRY STEERING WHEEL LOCKS

For Fords.



Operates on the same principle as the locking type wheel and replaces the top housing directly below steering wheel. Low in price, easily installed, and absolutely safe. Equipped with latest type Yale lock and approved by Underwriters Laboratories. Reduces insurance at least 15%. When locked the steering wheel is temporarily disconnected and the car cannot be steered.

Perry Locks. List Price Each.....\$7.50

K. W. AUTO LOCK

For Fords Prior to 1920.

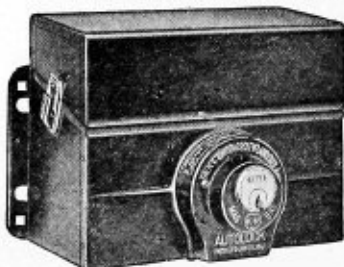


Absolutely prevents theft or unauthorized use of the car. Without the key it is impossible to operate the switch and coil units are locked in the box. Automatically short circuits entire ignition system and prevents "wiring around" when locked. Approved by Underwriters Laboratories and allows a reduction in insurance rates.

K. W. Auto Lock. List Price, Each.....\$3.50

K-W AUTO LOCK

For Ford Equipped With Starter.



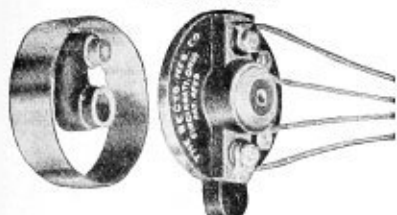
Furnished complete with specially designed coil box. Approved by Board of Insurance Underwriters. Lock can not be pried from coil box and ignition is automatically "locked off" when key is withdrawn and entire ignition

system short-circuited. Absolutely impossible to remove units or start motor excepting by use of key. No chance of grounding storage battery system, etc. Furnished complete with three keys.

K-W Auto Lock with coil box for starter-equipped Fords. List Price.....\$10.00

RECTO TIMERS

For Ford Cars.



A new type Timer made entirely of insulating material preventing Timer wires from coming in contact with metal parts or grounding. A sliding carbon metal brush pushes grease and dirt away and a high resistance carbon "wipes" up the spark. Requires no oiling, and flat inside surface may be cleaned in a few moments with sand paper. Brushes renewable for \$.30 each. Not the cheapest Timer made, but the longest wearing.

Recto Timers. List Price Each.....\$3.50

RED STAR TIMERS

For Fords.



A long-lived Timer made for service. Nickel plated, pressed steel shell; one piece fibre racefully dovetailed into fibre; roller case hardened steel revolving on smaller roller, also case hardened giving double wearing qualities. Not only a good timer but a good looking timer. Packed separately in a handsome display carton

Red Star Timer. List Price, Each.....\$2.25

MILWAUKEE TIMERS

For Fords.



A dependable Timer fitting all Model T Fords later than 1912. Case is lathe turned and ground steel. Bronze carrier fitted with a wide, hardened steel contact roller.

Milwaukee Timers. List Price, Each.....\$2.25

J. & B. TIMERS

For Ford Cars.

Fit all Model T Fords. Easily installed and fitted with hardened rollers to reduce wear to a minimum. One of the best Timers on the market.

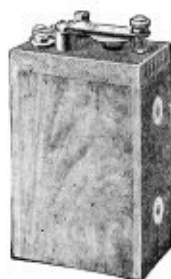
J. & B. Timers.

List Price Each.....\$1.75



K-W COIL UNITS

For Ford Cars.



The standard unit regularly fitting in metal coil boxes.

K-W Ford Coil Unit.

List Price Each.....\$2.75

K-W CONTACT POINTS

For Ford Coil Units with Tungsten contacts and springs.

List Price, per pair.....\$.35



K-W "SPARKITE" CONTACT POINTS

Made expressly for K-W Ford Coil Units, give a better spark at slow cranking speed, and hotter spark at any speed.

K-W "Sparkite" Points are larger in size, made of solid metal, more efficient and have longer life.

K-W "Sparkite" Points. List Price, per pair.....\$.50



SWITCH KEYS

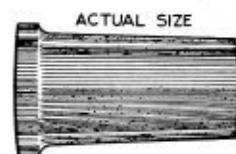
For Fords.



List Price Each.....\$.05

IMP MAGNETO PLUGS

For Ford Cars.



Eliminates 90 % of Ford ignition troubles. Prevents short circuits, hard cranking, etc., and insures that all current produced by magneto is delivered to coil box terminal with a resulting richer spark. Imp Plugs have a safety sleeve which prevent dirt, oil, etc., from reaching magneto contact spring.

Imp Magneto Plugs. List Price Each.....\$.65

COLUMBIA STORAGE BATTERY

For Fords.



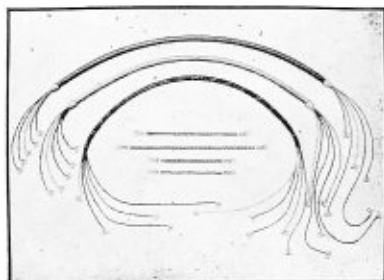
For the new 1920 lighting and starter-equipped Ford.

No. R-311-AE Columbia Storage Battery.

List Price Each.....\$44.65

IGNITION HARNESS OR LOOM

For Ford Cars.



Made of heavy gauge twisted copper wire, each individual wire being thoroughly insulated and the set of wires being in turn carried in a heavy cotton braided tube, securely water-proofed and coated with special insulated lacquer.

Five Wire Primary Set, in Loom. List Price.....\$.75

SPARK PLUG WIRES

No. 800—Set of 4. List Price.....\$.50

No. 801—For No. 1 Cylinder, length $14\frac{1}{8}$.
List Price15

No. 802—For No. 2 Cylinder, length $10\frac{1}{2}$.
List Price14

No. 803—For Nos. 3 and 4 Cylinders, length 7.
List Price10

RAIN SHIELDS No. 2

For Fords.



Consists of a sheet of heavy rubberized cloth complete with the necessary straps for attaching over cowl and edge of hood. Effectually prevents all leakage of water on spark coil, etc.

Rain Shield. List Price, Each.....\$1.80

APCO WATERSHED No. 3

For Fords.

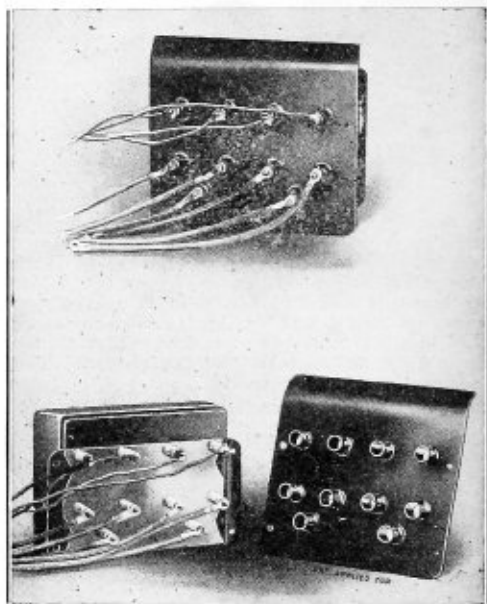


Keep water off coils from both front and back of dash; also keeps the water off the spark plugs, eliminating those troubles water causes in these places. It consists of three metal pieces—one fastens inside dash under cowl, one outside of dash, under hood, and the third hangs on rod extending from the radiator to dash. The pieces are all finished in black enamel, and the set is complete, ready to install, including screws, bolts, tacks, etc.

Apco Watershed. List Price.....\$1.00

COIL BOX PROTECTOR No. 4

For Ford Cars.



Sure protection for Fords against rain or wet weather. Consists of a metal plate fitting behind coil box with rubber insulators which securely water-proof the ignition wiring at the same time eliminating all need for felt or rubber gaskets. Installed in less than ten minutes.

Coil Box Protector. List Price, Each.....\$1.50

RAIN-SHED No. 1

For Ford Coils.



A very simple device which prevents water from dripping through and short circuiting ignition system between the cowl and hood. Consists of a strip of heavy harness leather cut in exactly the right shape which fits between cowl and hood. Sold complete with necessary rivets for attaching.

Rain-Sheds.. List Price.....\$1.00

KLAXON

TYPES SUITABLE FOR FORDS



KLAXON 5
FORD TYPE

List Price, - Each \$7.25

AT LAST, a motor-driven safety signal for the Ford—the Klaxon 5 Ford Type. Finished in all black enamel. Simply and easily installed on Fords factory equipped with self-starters.

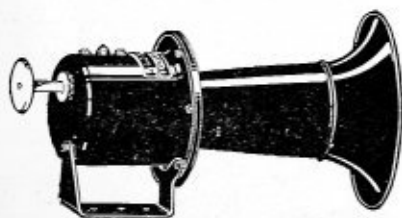
DIRECTIONS FOR INSTALLING

Disconnect present horn. Place a washer under nut on bolt which passes through steering-column flange and tighten.

Remove center cylinder head screw on left hand side of engine, pass it through large hole in horn bracket, hold bracket firmly against engine, tighten securely.

Cut off brass terminal on black horn wire and scrape off one and one-half inches of insulation; also remove the same amount from the short piece supplied with the KLAXON. Twist both securely together and tape joint. Change the black wire leading to the push button from its original position to the second terminal on terminal block on dash, being careful to tighten the screws securely.

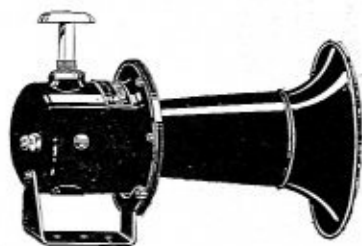
The KLAXON should sound loud and clear; if it does not, inspect all wiring connections and make sure that the battery is fully charged.



KLAXON 3

A hand operated Klaxon safety signal with horizontal push rod. Finished in the smart "Klaxon black" enamel—no polishing necessary. Suitable and easily attached to all Ford touring cars, runabouts and commercial cars without front door panels.

List Price, - - - Each \$4.75



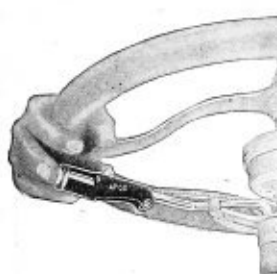
KLAXON 3-V

A hand operated Klaxon safety signal with vertical push rod. Finished in the smart "Klaxon black" enamel—no polishing necessary. Suitable and easily attached to all Ford touring cars, runabouts and commercial cars with front door panel at driver's left.

List Price, - - - Each \$4.75

APCO HORN BUTTON

For Fords.



Attaches to gas or spark control lever in the most convenient and accessible position for quick operation. Consists of neat button bracket with necessary wire ready for attachment. To attach it is only necessary to connect wire to the wire removed from old button and wrap it with tape. Weight 2 oz.

Apco Horn Button. List Price Each.....\$1.00

HANDY HORN BUTTON

For Ford, Dodge and Maxwell Cars.

**Don't Reach
to Signal!**

Use the



Fits on top of Ford steering wheel post by simply removing the nut and screwing on the Handy Horn Button. Always in the most accessible position. Neatly finished in black enamel.

Handy Horn Button. List Price Each.....\$1.00

ADJUSTABLE LAMP BRACKETS

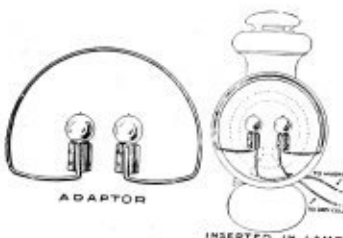


Made of malleable iron, black Japanned and drilled ready for attachment to side of frame. Adjusting nut enables brackets to be used for all size lamps up to 11" centers.

Adjustable Lamp Brackets. List Price, per pair.....\$2.50

SMITH ELECTRIC ADAPTOR

For Ford Oil Lamps.



Springs into a groove in front flange of regular Ford oil lamp and by attaching a wire to magneto switch an electric lamp is provided from magneto while engine is running. Controlled

by headlight switch. When engine is not running simply light oil lamp. Furnished complete with 18 V Mazda bulb and wire.

Smith Electric Oil Lamp Adaptor. List Price\$1.25

DOUBLE BULB ELECTRIC TAIL LAMP

Smith No. 261.

For Fords Prior to 1920.



Equipped with two bulbs, one for magneto—18V 2cp, and one 1½ V for dry cell service when motor is not running. The 18 V Bulb is operated from the same switch as headlights, the 1½ V bulb is operated from switch on dash or plug in lamp. Diameter of lamp, 3½"; equipped with red semaphore lens. Fits all Fords from 1914 to 1919, inclusive.

No. 261 Double Bulb Tail Lamp. List Price.....\$1.75

HEADLIGHT EQUALIZER

For Fords Prior to 1920.



A valuable little device to be inserted in lamp socket of right headlight, which is locked in place by knurled locking nut, the lamp plug then being inserted into open end of the equalizer. Gives much brighter, uniform light at all speeds and if one bulb burns out the other remains burning. The only device which really increases the light at low engine speed. May be attached in a moment by any one.

Headlight Equalizer. List Price.....\$.75

LAMP SOCKET

FOR Ford Headlights.

No. 451.



List Price\$.25

ELBOW PLUG

For Ford Headlights.



Similar to the plug regularly furnished as standard equipment. Made with double contact only and set screw terminals requiring no soldering.

Elbow Plugs. List Price.....\$.35

LAMPS FOR FORDS

SEE PAGES 64 TO 73

STEWART SPEEDOMETERS (For Starter Equipped Fords.)

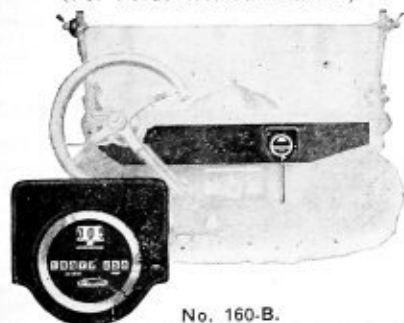


For use with Fords equipped with instrument Board. May be attached in a few moments. Sixty mile magnetic speed dial, 100,000 mile season and 100 mile trip odometer with tenth figures in red. May be reset instantly to zero. Three inch face with bevelled odometer opening. Finished in black enamel matching starter switch plate.

No. 160-A Stewart Speedometer. List Price.....\$15.00

STEWART SPEEDOMETER INSTRUMENT BOARD

(For Fords Without Starter.)



No. 160-B.



No. 160-C.

Outfit includes 3" dial, 60 mile magnetic Speedometer, 100,000 mile season and 100 mile trip with tenth figures in red. Season odometer may be reset as desired. Instrument Board strong black enamel wood with space for other instruments as desired.

No. 160-B Stewart Speedometer and Instrument Board for Ford Touring or Roadster. List Price.....\$16.25

No. 160-C Stewart Speedometer and Instrument Board For Sedan or Coupelet. Price List.....16.25

ed malleable iron springs carefully tempered. H. & D. Truck Shock Absorbers, per fet o. four. List Price.....\$25.00

J-M SPEEDOMETERS FOR FORDS (Equipped With Starter and Instrument Board.)



No. 3017

No. 3017 J-M Speedometer. List Price.....\$16.50

J-M SPEEDOMETER FOR FORDS (Without Self-Starter.)



Nos. 3009-3011.



Nos. 3014-3015.

This Speedometer includes a handsome instrument board of hard maple finish dull black to match the Ford. Instrument Board permits flush mounting of other instruments such as clocks, etc. Speedometer black and nickel finish with black dial and white figures; 10,000 mile season and 100 mile trip odometer; tenth figures in red. Instantly reset to zero.

No. 3009 J-M Instrument Board and Speedometer, Straight Drive 5 1/2 ft. shaft, 17T and 64T Gears. List Price.....\$12.00

No. 3011 J-M Instrument Board and Speedometer, swivel drive 5 ft. shaft, 17T and 64T Gears. List Price.....12.00

FOR FORD SEDAN AND COUPELET ONLY.

No. 3014 J-M Instrument Board and Speedometer, straight drive, 5 1/2 ft. shaft, 17T 64T Gears. List Price.....12.00

No. 3015 J-M Instrument Board and Speedometer, swivel drive, 5 ft. shaft, 17T and 64T Gears. List Price.....12.00

J-M HUB ODOMETER

For Ford Commercial Vehicles.



Embodies a 100,000 mile odometer encased in 100,000 mile hub cap designed so that it can be quickly substituted for the original hub cap. Attaches to wheel with three bolts and may be installed in a few moments. Grease can easily be replenished without removing cap.

List Price, Each.....\$12.00

LICENSE BRACKET AND CRANK HOLDER

For Fords.



Attached to front spring clips and fitted with folding prong which holds the crank in a vertical position, eliminating swinging and rattle. Front license plate is attached to bracket in an out-of-way, yet easily visible position. Heavy malleable iron neatly finished black ebony enamel. Packed 12 to the carton.

No. 250 Crank Holder and License Bracket.
List Price\$1.50

APCO LICENSE BRACKETS



Attaches under spring clip nuts and holds front number plate rigid. Made of steel black enameled and furnished complete with nuts, bolts, washers, etc.

Apco License Brackets.
List Price, per pair\$.25

LICENSE PLATE CLAMPS

For Fords.

No. 95.

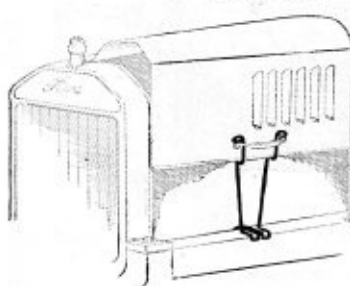


For attaching front license plate of any size or style. Attached on round rod between headlights. Stamped from heavy gauge steel. Packed one set in box.

No. 95 License Plate Clamps.
List Price, per set\$.25

GIANT HOOD HOLDER

For Fords.



In hot weather Fords usually over-heat. This device consists of a snap spring wire clamp which holds the hood open as shown in illustration. Installed in a moment without the use of tools. Out of sight behind the hood when driving with the hood down. Effectually prevents all rattling.

Giant Hood Holders.. List Price, per pair.....\$1.00

CRANK BOOTS

For Fords.



Made of heavy harness leather with strong strap.

List Price, Each.....\$.50

STEERING WHEELS

For Fords



Made in two styles: Tilting and Stationary.

These handsome 17" Steering Wheels replace the regular Ford Steering Wheel, which is only 15 in diameter, without any alterations or adjustments, the spiders being exactly machined to fit.



The Tilting type wheel gives extra passage space behind steering column and instantly locks by means of convenient thumb lever. Spiders are made of aluminum or malleable iron with black or walnut finish, plain or corrugated rims.

Packed in individual boxes.

- No. C-3014—17" Non-Tilting corrugated rim, malleable iron spider. List Price.....\$6.00
- No. C-3016-B—17" Tilting corrugated rim, malleable iron spider. List Price.....8.00
- No. C-3017—17" Non-Tilting plain walnut rim, malleable iron spider. List Price.....4.90
- No. C-3018-B—Non-Tilting corrugated walnut rim, malleable iron spider. List Price.....6.00
- No. C-3019-B—17" Tilting plain walnut rim, malleable iron spider. List Price.....7.10
- No. C-3020-B—17" Tilting corrugated walnut rim, malleable iron spider. List Price.....8.10
- No. C-3022—17" Non-Tilting black corrugated rim with aluminum spider. List Price.....7.75
- No. C-3023—17" Non-Tilting plain walnut rim with aluminum spider. List Price.....6.70
- No. C-3024—17" Non-Tilting corrugated walnut rim with aluminum spider. List Price.....7.75

TOOL BOXES

For Fords



These boxes are specially intended for Ford cars. All seams electrically welded and finished in handsome black baked-on enamel. Equipped with Yale lock and key. Height of these Tool Boxes permits sufficient clearance to open Ford doors.

Type	Length	Inside Width	Height	List Price
*B-1886	17 1/2"	7 1/8"	6 3/4"	\$5.25
*B-2296	22"	9"	6 3/4"	3.35
B-2416	23 1/8"	9 1/8"	6 3/4"	6.75

BAILEY BALL THRUST BEARINGS

For Fords.



This Bearing replaces the thrust washer that are regularly furnished on the left of gear side of the differential. The Ball Bearings reduce wear to a minimum, prevents jerking, and

makes the car run much easier and smoother.

Ball Thrust Bearings. List Price.....\$3.75

GRAHAM BALL THRUST BEARINGS

For Ford and Chevrolet 490.



Replaces the thrust washers regularly furnished on the left gear side of the differential in Ford or Chevrolet Model 490. It is easily inserted and prevents excessive wear and consequent loose axle shafts.

Graham Ball Thrust Bearings. List Price.....\$3.75

GOODRICH BALL RETAINER

For Ford and Chevrolet 490.

Front Spindles.

By equipping the Ford or Chevrolet with a Goodrich Ball Retainer, the front axle bearings run much smoother and easier, reducing friction and preventing balls from working out race. Prevents broken balls, wobbling wheels, and reduces wear. The construction of the Retainer is

such that balls are separated and run freely and smoothly on race-way. Sold only in sets of four, including highest grade tool steel ball bearings.

Goodrich Ball Retainers. List Price, per set.....\$2.25

F. W. S. ROLLER BEARINGS

For Ford and Chevrolet 490 Front Wheel Spindles.



A sturdy set of roller bearings consisting of the inner and outer Bearings for front wheels. These Bearings are adjustable by means of threaded collar and their use eliminates the usual wobbling and rattling of front wheels. Set con-

sists of four bearings, one inner and one outer bearing for each front wheel.

F. W. S. Roller Bearings. List Price, per set.....\$8.00

RING GEAR AND PINION

For Ford Cars.



Many Ford drivers prefer either a higher or a lower gear ratio than is regularly furnished with the car. These Gears are made of the best quality hardened and polished

nickel steel and are guaranteed by the manufacturer for one year's service. Made in three ratios, 2 3/4 to 1 for speed cars; 3 to 1 for ordinary use; 4 to 1 for trucks. (Standard Ford gear ratio is 3 7/11 to 1.)

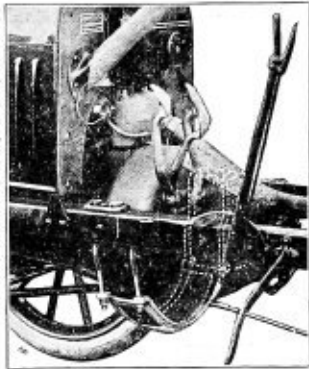
Ring Gear and Pinion Complete.

List Price.....\$13.50

LIBERTY MOTOR SUPPORTS

For Ford Cars and Trucks.

Just 20 minutes to install. Reinforces the regular Ford motor arms eliminating vibration and preventing breakage of hanger arms. Relieves the strains and stops oil leaks and even if the Ford motor arms should be broken, supports the motor evenly with a perfect three point suspension. No bolts or nuts to loosen.



Liberty Motor Support. List Price Each.....\$4.00

HUDSON CRANK CASE REPAIR ARM

For Fords.



An invaluable time saver. A small malleable casting attached by means of bolt holes already on the crank case and frame. Saves the expense of tearing down the entire motor as it is only necessary to loosen bolts. Slip crank case arm on and the job is finished.



Hudson Crank Case Repair Arm.

List Price\$1.50

WAINWRIGHT SPECIAL LIGHTWEIGHT PISTONS

FOR Fords.



A set of these special Wainwright Pistons properly installed in the Ford will increase the power from 10 to 50% and will make a real lasting repair job. These pistons were specially designed for the Ford and weigh without pin or rings only 26 oz. Made from finest grey iron accurately ground with door shaft head giving increased

No. FD-182 Lightweight Pistons for Fords.

List Price, per set of 4.....\$15.00

No. FD-182X Special Lightweight Pistons for Fords with piston pins (no rings.)

List Price, per set of four..... 17.60

HUB CAPS

FOR Fords.



These Caps replace the regular Ford No. 2189 Hub Cap and are pressed from heavy 18 gauge brass to fit all Fords. Carried in polished nickel plate.

Hub Caps, polished brass. List Price, Each.....\$.20

Hub Caps, polished nickel plate.

List Price, Each..... .20

UTILITY SCREWS

FOR Fords.



$\frac{3}{8}$ " diameter x $1\frac{1}{4}$ " long with slotted hex head and S. A. E. thread. Also drilled for cotter pin. This screw may be used in 15 different places on the Ford cars and on account of its adaptability for all purposes is particularly useful. Packed 100 in carton.

Utility Screws. List Price, Each.....\$.05

VALVE STEM ADJUSTERS



Practically every car but the Ford is equipped with an adjustment to take up the wear in valve stems. These Adjusters provide a means for easily and quickly taking up Ford valve stems and consist of eight caps with a quantity of thin discs installed in a few moments.

Valve Stem Adjusters. List Price,

per set\$.50



C-B OIL LEVEL GAUGE

For Fords.

Made of solid brass of very rugged construction with the glass thoroughly protected by brass. Attached directly to crank case. If desired a pet cock may be attached to lower end of gauge, enabling surplus oil to be drained off.

C-B Oil Level Gauge.

List Price, Each.....\$.75

OIL GAUGES

For Fords

Edelman No. 42



Made with $\frac{3}{4}$ " heavy glass tube with brass protecting shield to prevent breakage. Height over all 3". Pipe Nipple has $\frac{1}{8}$ " pipe thread both ends and fits into crank case opening when lower pet cock is removed. Made entirely of brass.

No. 42 Oil Gauge. List Price.....\$.45

OIL COCK WRENCH

For Fords.

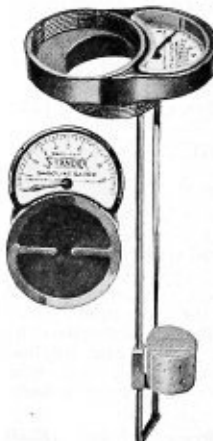


A convenient device enabling the Ford owner to see whether there is oil in the crank case. Marked with graduated scale for measuring the depth of gasoline in the Ford tank. Finished in black enamel. Packed 12 in a carton.

Oil Cock Wrench. List Price, Each.....\$.25

STANDEX GASOLINE GAUGES

For Ford Cars.



Instantly and correctly tells the exact quantity of gasoline in the Ford tank. Easily installed by simply screwing down to tank cover into tank—the gauge head resting on top of tank cover. Gasoline tank may be filled without disturbing gauge through special screw top vent. In ordering specify style of body as Ford Sedan uses a slightly different model.

Standard Gasoline Gauge.

List Price, Each.....\$1.75

VULCO CORD FAN BELTS

For Fords



An oil-proof, heat-proof, non-stretchable belt, guaranteed to outwear any other belt on the market. Made of 8 or 10 plies of vulcanized fabric, laid on the bias.

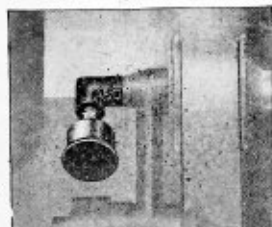
No. 812 Vulco Cord Belt for 1917 and later Fords.

List Price \$.55

No. 811 Vulco Cord Belt for Fords 1911 to 1916.

List Price50

APCO FAN GREASE CUP



An extra large grease cup attached to elbow, making it within easy reach. Installed in five minutes with a pair of pliers.

Apco Fan Grease Cup. List Price, \$.25

CASCO FAN BELT GUIDE

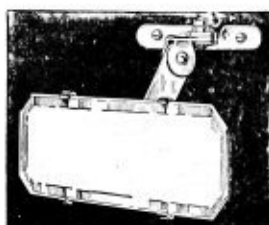


Attached in a moment and clamps to crank case flange. A convenient, practical device.

Casco Fan Belt Guide. List Price, Each.....\$.50

TRICO MIRRORS

For Fords.



A self-adjusting friction joint Mirror which is attachable to open and closed cars. Size, 7x2½". French plate glass beautifully finished. Made in three styles.

No. 1 Inside drop bracket and construction designed for cars in which the back curtain light is lower than windshield top. No. 2 Inside bracket. No. 3 Open Car style with windshield clamp attachment.

No. 1 Mirror is particularly adapted for Ford sedans and coupes; finished in nickel or black enameled bracket.

Trico Mirror with nickel bracket.

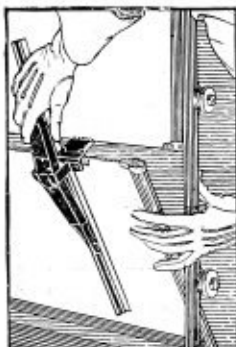
List Price\$3.50

Trico Mirror with black enameled bracket.

List Price 3.00

TRICO WINDSHIELD CLEANER

For Fords.



Slides across on glass and instantly attached by simply opening windshield. May be used with overlapping glass or on enclosed cars. Touches nothing but glass, therefore, cannot scratch or mar the top or frame.

Trico Windshield Cleaner. List Price, \$1.75

TRICO TWO-WAY WEATHER STRIP

For Fords.



A special style for the Ford overlapping type of windshield which sticks securely in place. Made of brass, polished nickel plated, fitted with flexible rubber that folds over and closes the opening at the same time forming a cushion between the two glasses. Made in two styles, for Ford open or closed cars. Does not interfere with use of Trico Windshield Cleaner.

Trico Weather Strip. List Price.....\$1.00

TRICO WINDSHIELD CLIP

For Ford Sedans and Coupes.

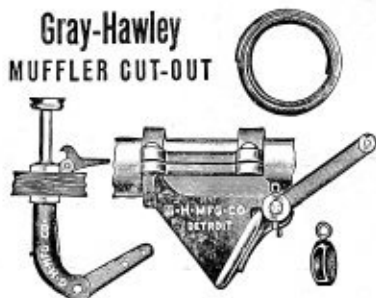


Effectively prevents water from entering through opening between the two glasses of windshield. Fitted with rubber to form a tight seal at both ends of shield. Rubber strip is flexible, allowing free movement of windshield. Requires no alterations to attach. Neatly finished in black enamel.

Trico Windshield Clip. List Price, per set.....\$.75

GRAY-HAWLEY MUFFLER CUT-OUT OUTFIT

For Fords.



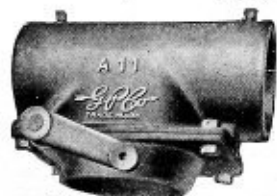
Outfit includes Cut-Out, pedal, pulley and cable necessary for attachment to Ford car.

G-H Muffler Cut-Out Outfit Complete.

List Price\$2.00

G. PIEL MUFFLER CUT-OUT OUTFIT

For Fords.



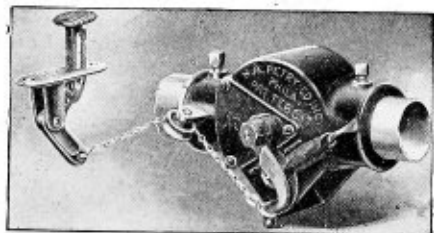
G-P Muffler Cut-Out

Consists of a G. P. Cut-Out with special pedal and chain ready for installation on Ford car.

G. P. Muffler Cut-Out Outfit complete. List Price, \$4.50

PETRY CUT-OUT OUTFIT

For Fords.

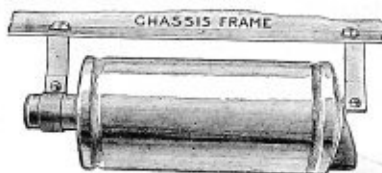


Equipped with adjustable tension spring. Outfit includes Cut-Out, chain, pulley, etc., ready for attachment.

Petry Cut-Out Outfit. List Price.....\$4.50

MUFFLERS

For Ford Cars.

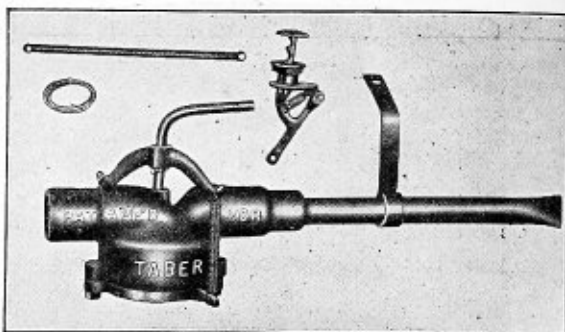


An improved type Muffler constructed of heavy sheet steel and provided with series of baffle plates which eliminate all exhaust noise, yet reduce back pressure to a minimum. Large in size. Attached to chassis frame by means of two bolt holes already drilled in frame.

Mufflers. List Price.....\$2.00

TABER MUFFLER AND CUT-OUT

For Ford Cars.

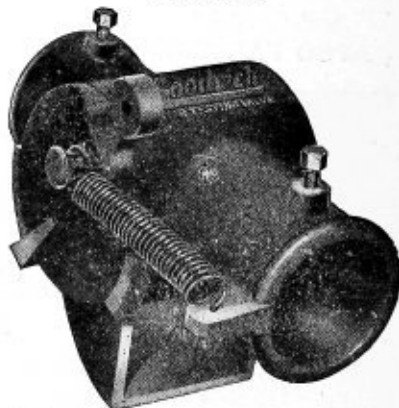


A newly patented device now in use on thousands of Ford Cars. Does away with the danger of muffler blow-outs, minimizes back pressure and does away with carbon. It is mud proof. Easily installed. Outfit complete consists of Patented Cut-out and Muffler, Wear-proof Pedal, Strap Iron Support, Tail Pipe, 5 1/2 in. Coil Spring, Wire Leader and Full Directions for Installation.

Taber Muffler and Cut-Out Outfit. List Price.....\$5.85

GOODRICH CUT-OUT OUTFIT

For Fords.



Carefully made of high quality materials. The bell-mouth opening allows complete expansion of exhaust gases. Constructed with tension spring that is not affected by heat. When valve is open exhaust gases cannot go through muffler and when closed there is no obstruction in exhaust pipe. Requires no adjustments and is easily cleaned by removing one cotter pin. Neatly finished in rust proof enamel. Sold complete with pedal and chain.

Goodrich Cut-Out Outfit. List Price.....\$2.00

EXHAUST DEFLECTOR

For Fords.



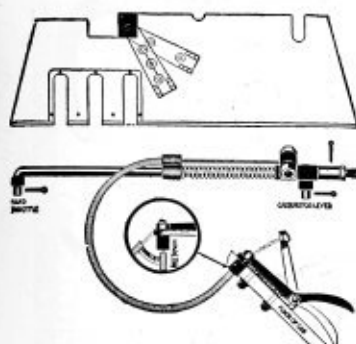
PAT'D. FEB. 20, 1916

Exhaust Deflectors. List Price.....\$.50

Attaches by means of a single screw to Ford exhaust pipe and deflects smoke and gases away from tires, axles, or other parts of the car. May be turned in any direction.

WILLIAMS' ACCELERATOR

For Fords.



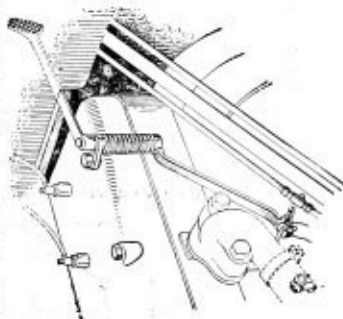
Easily and installed by any one by simply cutting one small hole in the foot board to fasten pedal and connecting the rods to throttle valve or carburetor. Operates independent of the hand throttle. A simple, practical accelerator that will outlast the car itself. All necessary springs and equipment included for attachment.

Williams Accelerator. List Price.....\$3.00

ADAMSON ACCELERATOR

For Fords.

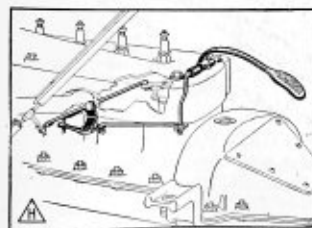
Similar in design to those used on many higher priced cars. Cannot rattle, and has only one moving part, supported by tension spring bearing as shown in illustration. Attached by removing one cylinder head screw and clamping accelerator in position. Operates independent of hand throttle.



Adamson Accelerator. List Price.....\$1.25

HUMBOLDT ACCELERATOR

For Fords.



A simple, easily attached type of foot accelerator. Takes 20 minutes to install. Pedal attached to rear cylinder bolts. Floor boards may be removed without disturbing pedal. Complete with necessary fittings.

Humboldt Accelerator. List Price.....\$1.25

APCO ACCELERATOR

For Fords.



A complete, practical outfit consisting of pedal, bracket, throw-arm chain, and all connections ready for installation. Takes but a few minutes to connect up and never requires attention.

Apco Accelerator.
List Price.....\$1.00

KINGSTON CARBURETORS

For Ford Cars

This Carburetor was furnished as standard equipment on Ford cars for several years. Type L1 is for 1915-16 Fords. Type L2 for Fords built after July, 1916; also for 1917 models.



Model L1 Kingston Carburetor for 1915-16 Fords.

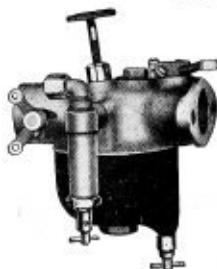
List Price\$6.30

Model L2 Kingston Carburetor for 1916-17 Fords.

List Price 6.30

KINGSTON MODEL L2S CARBURETORS

For Ford Cars

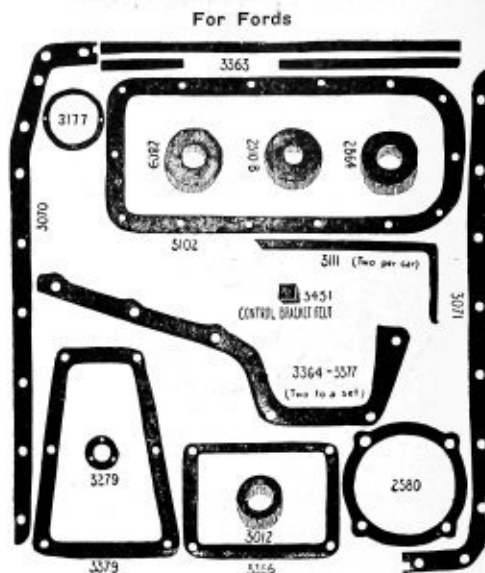


This is a great improvement over the Model L2 and L1 Kingston Carburetors. Equipped with gasoline Strainer and many other economy increasing devices too numerous to mention. Guaranteed right.

Kingston Model L2S Carburetor for Ford Cars.

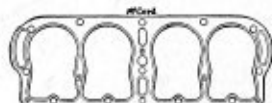
List Price\$7.50

FELT GASKETS



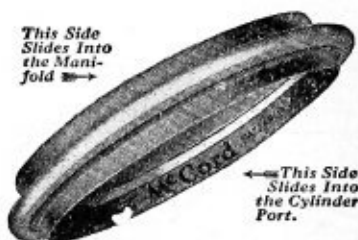
No.	List Price Per 10	No.	List Price Per 10
2510-B	\$.30	3279	\$.06½
2809	.30	2580	.30
3012	.19½	3263-L	.13
3544	.06	3263-M	.06½
3070	.36	3263-S	.05
3071	.36	3111	.13
3377	.63	3451	.06
3364	.63	3266	.46
3102	.12½	3177	.07

Copper-Asbestos



Fit All Ford Cars and Trucks.
List Price, Each.....\$.65

2-IN-1 COPPER-ASBESTOS FORD MANI- FOLD GASKET



REPLACES FORD PARTS

3063-Inlet and Exhaust Pipe Gasket
3064-Inlet and Exhaust Pipe Gland
A Gasket and a Guide for Ford Intake and Exhaust Manifolds

List Price, per 100	\$6.00
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COPPER-ASBESTOS GASKETS

For Fords

No. 3018 Inlet Flange Gasket.	List Price.....	\$.05
No. 3005 Outlet Flange Gasket.	List Price.....	.05
No. 4134 Carburetor Gasket.	List Price.....	.05

BRASS SHIMS

For Fords,



One hundred Assorted Brass Shims, cut to shape. Various thicknesses. Packed in screw top container.

List Price\$1.10

MEMORANDUM

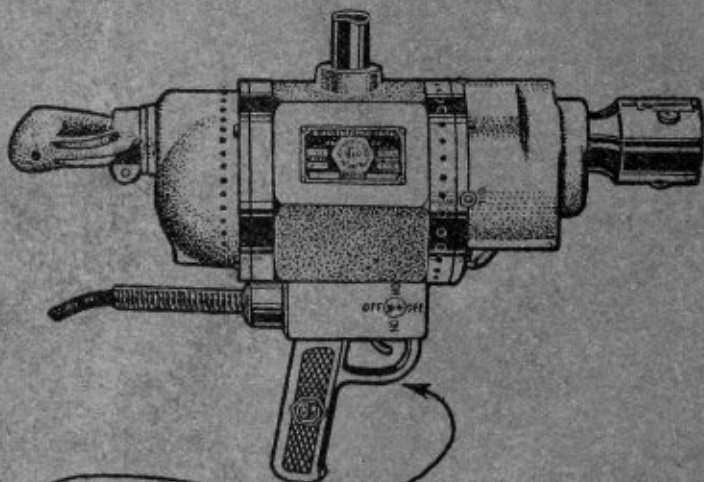
MEMORANDUM

MEMORANDUM

MEMORANDUM



BLACK & DECKER



With the Pistol Grip and Trigger Switch



PITTSBURGH AUTO EQUIPMENT CO.
5933-35-37 Baum Blvd. Pittsburgh, Pa.

